BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of: Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communications Systems.	PS Docket No. 17-239

COMMENTS OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION

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I. INTRODUCTION

The California Public Utilities Commission (California or CPUC) submits these comments in response to the Federal Communications Commission's (FCC or Commission) Notice of Inquiry Concerning 9-1-1 Access, Routing, and Location in Enterprise Communications Systems.[1] The NOI seeks comment on a number of issues existing with the 9-1-1 capabilities of Enterprise Communications Systems (ECS), including consumer expectations, information about past regulatory actions by states, potential and existing ECS standards and best-practices, and relevant statistics for 9-1-1 calls from an ECS environment. The FCC also seeks information about issues unique to persons with disabilities when calling from an ECS environment.

The CPUC comments here on some, but not all, of the issues raised in the NOI, including:

- Information about the CPUC's previous positions and actions addressing 9-1-1 access for ECS;[2]
- Information about issues relevant to disabled persons accessing 9-1-1 in an ECS environment;
- Information on the CPUC's review of E9-1-1 service in California, including any gaps or limitations the CPUC identified with respect to addressing E9-1-1 access for ECS; and
- Data on calling 9-1-1 from ECS in California.

As explained further below, the CPUC undertook its own effort to improve public safety in California by improving access to E9-1-1 by Multi-Line Telephone Systems (MLTS) and

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[1] *Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communications Systems*, PS Docket No. 17-239, Notice of Inquiry, FCC 17-125 (rel. Sept. 26, 2017) (NOI).

[2] The CPUC refers to these systems as Multi-Line Telephone Systems (MLTS), Private Branch Exchange (PBX), Centrex, Hybrid, and Key Systems.

Private Branch Exchange (PBX) systems. The CPUC noted that to date, there is still no legislative mandate that directs the MLTS owners/operators/lessees to proactively and accurately provision and update the location information records in the Enhanced 9-1-1 database. During that proceeding, the California Public Safety Answering Points (PSAPs) and other stakeholders uniformly confirmed that the existing voluntary approach, without the legislative mandate, is not working. They also confirmed that they are continuing to experience inaccurate caller location from PBX because many of them still have not been accurately provisioned with the location information records in the Enhanced 9-1-1 database, leaving a significant segment of the telecommunications consumer population, MLTS end-users, without the Enhanced 9-1-1 protections.

The CPUC continues to support the model legislation developed by the National Emergency Number Association (NENA), which contains four primary solutions for MLTS manufacturers and service providers: 1) direct access to 9-1-1 without requiring a user to dial any additional numbers, 2) location and call-back number provisioning to law enforcement, 3) automatic 'on-site notification' MLTS features, and 4) restrictions for MLTS managers activating 9-1-1 call diverting capabilities of a system.

II. DISCUSSION

A. CPUC's regulatory actions addressing 9-1-1 access for Enterprise Communications Systems

The FCC seeks information about planned or existing actions by state regulators addressing issues related to ECS.[3] The FCC has previously examined the provision of 9-1-1 by ECS, however, it has not adopted E9-1-1 requirements for either legacy or Internet Protocol (IP)-based ECS. Instead, the FCC has deferred to state and local authorities to

[3] NOI at ¶¶ 15, 39.

devise the 9-1-1 obligations of ECS operators and service providers. In previous FCC proceedings related to E9-1-1 service for ECS, the CPUC supported the FCC's efforts to ensure that PBX systems are compatible with 9-1-1,[4] and noted that while 9-1-1 capability was available in PBX equipment, it could not be taken advantage of due to lack of standardization.[5] The CPUC further stated that certain areas, such as the Automatic Location Information (ALI) data-base administration, are best addressed at the local level, but that rules should be established to ensure data is collected in a standard format established by the National Emergency Number Association (NENA).

In 2010, the CPUC initiated a rulemaking (R.10-04-011) to improve public safety in California by improving access to E9-1-1 by MLTS and PBX systems. The CPUC hosted a workshop addressing ECS, inviting participation from representative stakeholders. The workshop addressed three main subject areas, including identifying a public safety need for accurate caller information and ECS E9-1-1 capabilities, describing how public utilities and other service providers can work with businesses to implement these services, and identifying the feasibility and cost to businesses of provisioning location information to public safety answering points (PSAPs) and field responders. The workshop's final recommendations were as follows:

1) Local exchange carriers (LECs) and other service providers' business practices should be improved to facilitate customer access to existing services that provide MLTS E9-1-1 solutions;
2) PSAPs and County Coordinators should develop statewide guidelines and points of contact for arranging the testing of call routing from high risk MLTS environments; and

[4] The CPUC stated that only the three digits 9-1-1 should be used to reach emergency services, not 9-9-1-1 or any other combination of digits. The CPUC maintains that position.

[5] Comments of the CPUC, CC Docket No. 94-102 (filed Jan. 6, 1995).

3) Public education and resources on MLTS E9-1-1 issues and solutions should be provided through the CPUC and the California 9-1-1 Office.

The CPUC issued Decision (D.)13-07-019, which directed the LECs to take actions designed to raise customer awareness of critical E9-1-1 MLTS and PBX safety issues. In that decision, the CPUC noted limitations on its abilities to fully address E9-1-1 issues, including the fact that the FCC deregulated the manufacture and distribution of customer premises equipment (CPE), and the fact that primary responsibility for the operation and maintenance of the 9-1-1 system may rest with other state agencies which have technology responsibility, and not with the CPUC. Further, the CPUC noted that while various statutes may affect the lawful use of telecommunications facilities (e.g., prohibitions against use of such equipment for illegal purposes, which can lead to disconnection of service), in general, the CPUC could not compel customers either to install specific facilities or to subscribe to specific services. A copy of D.13-07-019 and the Workshop Report Summary are attached hereto as Attachments 1 and 2, respectively.

Ultimately, the CPUC addressed the public safety issues in California's E9-1-1 system by raising awareness of this critical public safety need amongst the stakeholders, especially the PBX MLTS customers; and supporting legislative efforts for California to adopt effective E9-1-1 legislation such as mandating MLTS customers to provision for MLTS E9-1-1. To that end, in D.13-07-019, the CPUC:

1) Directed its staff to place the PBX 9-1-1 Advisory, attached to the decision as Appendix A, on the CPUC's CalPhoneInfo[6] website, and

[6] CalPhoneInfo, www.calphoneinfo.com, is a CPUC-operated website providing consumers with information about telecommunications services and features. This website was created per CPUC Decision D.07-07-043, the 'Consumer Protections Initiative,' primarily to help consumers understand the variety of services available, their rights to understand what is being provided to them and under what conditions, and how they can receive assistance with complaints about their service and bills.

thereafter continue to maintain and make any technical updates to the PBX 9-1-1 Advisory, on the CPUC's CalPhoneInfo website, as necessary;

2) Directed its staff to take all reasonable actions toward providing aid and otherwise furthering the introduction and adoption of effective legislation requiring MLTS owners/operators/lessees to provide Enhanced 9-1-1 services with accurate caller location information for their customers;

3) Directed California LECs, and strongly encouraged other parties to the proceeding, to (1) distribute the customer advisory brochure (PBX 9-1-1 Advisory) attached to the decision to their current and prospective customers when those customers initiate services and/or request information on MLTS Enhanced 9-1-1; (2) distribute the PBX 9-1-1 Advisory, and any applicable updates, or a brochure with the same essential information, to existing MLTS customers; (3) provide links on their webpages to the CPUC's CalPhoneInfo website and specifically the PBX 9-1-1 Advisory, and any applicable updates; and (4) place the following logo on their webpage, which would link directly to the CPUC's webpage:

   i. 

4) Directed LECs in California to: (a) include in their local access tariff language that informs customers of the option to provision more accurate 9-1-1 caller MLTS phone station information that can be sent to Public Safety Answering Points and that it is the customer's responsibility to provide and maintain accurate and complete phone station location information in the 9-1-1 database, generally consistent with the sample language below; and (b) review, revise and update their 9-1-1 tariffs such that their current and prospective customers are fully informed of options for provisioning accurate caller location information generally consistent with the below language:

> It is the customer's responsibility to provide, and update if necessary, accurate Automatic Number Identification (ANI) and Automatic Location Identification (ALI) sub-address information to the 9-1-1 database administrator. Once the customer provides ANI and ALI sub-address information to the 9-1-1 database administrator, it is the responsibility of the Utility (or Company) to provide the location of the pilot number to the PSAP for 9-1-1 calls, and where technically and operationally feasible the Utility (or Company) will deliver ANI to the PSAP at a station level behind a Multi-line Telephone System.

Besides its directives in D.13-7-019, the CPUC noted that CALNENA, the California Chapter of NENA, had provided a copy of the NENA model legislation for MLTS systems as a viable blueprint for E9-1-1 legislation in California,[7] and found this legislative approach to be balanced and prudent. In 2013, the CPUC supported Assembly Bill (AB) 911 (Assembly-member Bloom) which followed this model legislation in requiring MLTS systems to support uniform dialing, call back number and location to PSAPs. This legislation did not pass. To date, California has not adopted legislation to regulate 9-1-1 service as it applies to enterprises. The CPUC continues its support of this model legislation.

The FCC further seeks comment on what expectations consumers may have when calling 9-1-1 from an ECS station.[8] CPUC General Order 168 states:

1. Consumers have a right to expect that voice providers will offer connections to E9-1-1 emergency services and access to Public Safety Answering Points to the extent this is technically feasible and required by law, and to clear and complete disclosure of material limitations on access to 9-1-1 emergency services.
2. Consumers have a right to receive clear and complete information about any limitations affecting the services they select, including limitations on bandwidth, applications or devices that may be used in connection with their service.

B. Issues relevant to disabled persons accessing 9-1-1 in an Enterprise Communications Systems environment

The FCC seeks comment about unique issues that persons with disabilities may encounter when attempting to contact emergency services from an ECS environment.[9]

[7] The model legislation proposed four primary solutions for MLTS manufacturers and service providers: 1) direct access to 9-1-1 without requiring a user to dial any additional numbers, 2) location and call-back number provisioning to law enforcement, 3) automatic 'on-site notification' MLTS features, and 4) restrictions for MLTS managers activating 9-1-1 call diverting capabilities of a system.

[8] NOI, at ¶ 34.

Additionally, the FCC seeks comment about the current capabilities of ECS to provide emergency communications, and about the potential for future ECS to support accessible communications media, such as real-time text.[10]

The CPUC's Deaf and Disabled Telecommunications program (DDTP) provides California consumers with text communications devices designed to assist those with hearing and/or speaking disabilities. Public safety answering points currently maintain on-site capabilities for communicating with callers using these devices. People with disabilities who rely on Text Telephone (TTY) or Caption Telephone (CapTel) devices may experience unique technological compatibility issues when attempting to contact a PSAP from an ECS environment. ECS provide communications through Internet Protocol (IP) and cloud based services, whereas TTY and CapTel devices are designed around legacy analog services. Completing a text communication from a TTY or CapTel device over a system relying on IP requires the conversion of the analog signal to an IP signal. The conversion process causes interoperability problems such as dropped calls, connection problems, and text garbling. The Americans with Disabilities Act requires that people with disabilities who use TTYs have functionally equivalent access to emergency response services.[11] There is a need for future ECS to support and be made compatible with text communications devices, including analog signal-based ones.

In California, TTY and CapTel users are a statistically vulnerable population, who might be calling from a residence or enterprise environment such as assisted living, hospitals or business. Currently active TTY users primarily live in low-income and/or

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[9] *Id.* at ¶ 35.

[10] *Id.* at ¶ 27.

[11] Americans with Disabilities Act of 1990, 28 C.F.R. Part 35, § 35.162 (2005).

rural locations, and rely on analog telecommunications facilities. The DDTP reports over 1,000 estimated users per month, with current use of about 97,000 minutes per month. Based on previous surveys, almost 70% of telecommunications relay service users are over the age of 46. Ninety percent of CapTel users are over the age of 56, 79% are retired, and 16% are in the work force.

C. Existing gaps in E9-1-1 implementation for ECS capability

The FCC seeks comment on whether issues relevant to Enterprise Communications Systems are suited to state-level action, and asks which entities, processes, best practices, or standards should be utilized in their establishment.[12] The FCC further seeks information on whether significant gaps in implementing E9-1-1 for ECS still exist.[13]

As noted above, in R.10-04-011, the CPUC conducted a review of critical emergency access protections of E9-1-1 provisioning to business customers and MLTS users in California. In addition to the requirements that the CPUC imposed on LECs, described above, the CPUC cited certain limitations on its ability to implement and address E9-1-1 access by ECS/MLTS/PBX systems, including FCC deregulation of the manufacture and distribution of CPE, the lack of state role in overseeing CPE manufacturing and distribution, and the CPUC's inability to compel customers to purchase certain equipment or services. While stating that primary responsibility oversight of CPE falls to businesses, the CPUC also stated that California must move towards adoption of a legislative solution requiring MLTS owners/operators/lessees to provide E9-1-1 services with accurate caller information, noting that seventeen other states had already adopted such provisions at the time.[14]

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[12] NOI, at ¶¶ 39, 40.

[13] *Id.* at ¶ 42.

[14] CPUC Decision 13-07-019, slip op. at 27 (attached hereto as Attachment 1).

The CPUC further examined the current industry tools, services, and practices to understand all of the pertinent operational or logistical issues with E9-1-1, and reviewed a number of recommendations to help solve the E9-1-1 concerns in California. The CPUC agreed that there was a significant customer role and responsibility to establish, submit, and maintain accurate and up-to-date 9-1-1 database records of MLTS end-users' phone stations. However, the CPUC also noted that LECs did not provide written standard operating procedures and Best Practices policies which instruct sales and customer service personnel on how to inform and assist customers regarding MLTS Enhanced 9-1-1 issues, and suggested that the LECs should improve in that regard.[15]

D. Data regarding calling 9-1-1 from ECS in California

The FCC seeks information to understand the extent to which consumers might rely on ECS for calls to 9-1-1.[16] The California State 9-1-1 Office (Office of Emergency Services) recently provided 9-1-1 call detail records to the CPUC. These call detail records show that in 2016, Californians called 9-1-1 a total of 28,283,557 times. Of these calls, 2,580,947, or approximately 9.12%, originated from an ECS, based on estimated values described below. The California State 9-1-1 Office obtained this information using the Emergency Call and Tracking System (ECaTs).[17]

The ECaTs system does track calls from legacy multi-line systems separately, however it does not track VoIP calls separately.[18] In 2016, legacy ECS calls to 9-1-1 numbered 2,068,318. The California State 9-1-1 Office estimated the number of VoIP calls from ECS to 9-1-1 to be ½

[15] *Id.*, slip op. at 33.

[16] NOI, at ¶ 19.

[17] The Emergency Call Tracking System (ECaTS) is a statewide 9-1-1 call related data gathering system.

[18] NOI, at ¶ 19.

of total VoIP calls (total VoIP 9-1-1 calls were 1,025,219).[19] Together, the legacy and VoIP calls represent a 14% increase in calls from ECS systems in California over the 5 year period from 2011 to 2016. The following table illustrates these numbers:

California 9-1-1 calls	2011	2016
Legacy ECS	2,072,336	2,068,318
VoIP, all types	394,082	1,025,219
Total ECS (using 1/2 VoIP)	**2,269,377**	**2,580,928**

The FCC also asks about the commonality of failed calls.[20] If the failure were classified as being generated from a legacy ECS system, rarely would a 9-1-1 call fail to reach a PSAP.[21] If the failure were classified as failure to provide correct location information, VoIP has greater risk than legacy. These VoIP systems can be provided over wide geographic areas and potentially across state and national boundaries due to cloud and IP technology, and this geographic factor increases the possibility of failed location provisioning. The CPUC's workshop highlighted this problem, and the California State 9-1-1 Office discussed the use of supplemental data fields as a solution for the location issue.

The California State 9-1-1 Office subsequently reviewed its statewide ECaTS data for 2011, including data for both legacy and VoIP deployments, and determined from these records that many subscribers do not correctly utilize the supplemental data field to provide responders with accurate location information. Legacy systems generated 2,072,336 9-1-1 call records in 2011; of these, 9,546 had supplemental location fields blank. Other supplemental location fields

[19] Because there are a number of proxies to estimate the number of ECS calls using VoIP, and none of them were exclusively persuasive, the California State 9-1-1 Office used 50% of the total VoIP 9-1-1 calls.

[20] NOI, at ¶ 33.

[21] One possible reason is that these legacy systems, the larger ones of which were designed and built to central office equipment standards, contained many of the same reliability features, and are directly connected to their stations. However, as the FCC notes, many of these legacy systems are also incapable of providing 9-1-1 dialing directly to a PSAP from stations.

(3,425) contained a notation of 'unknown,' 'unused,' 'unassigned,' or 'unspecified.' Several records simply repeated the name field or phone number. Of the 394,082 VoIP 9-1-1 calls, there were 94,952 which used additional information in the location supplemental data field. Although these may not all be MLTS calls, the usage of the supplemental data field represents 24% of all the 394,082 VoIP 9-1-1 calls for 2011.

III. CONCLUSION

The CPUC appreciates this opportunity to improve public safety by sharing our experience and data on the issues existing with the 9-1-1 capabilities of Enterprise Communications Systems. The CPUC looks forward to participating in any further FCC rulemaking on this important public safety issue.

Respectfully submitted,

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ATTACHMENT 1

Decision 13-07-019 July 11, 2013

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Improve Public Safety by Determining Methods for Implementing Enhanced 9-1-1 Services for Business Customers and for Multi-line Telephone System Users.	Rulemaking 10-04-011 (Filed April 8, 2010)

DECISION TO EXTEND CRITICAL EMERGENCY ACCESS PROTECTIONS OF ENHANCED 9-1-1 PROVISIONING TO BUSINESS CUSTOMERS AND MULTI-LINE TELEPHONE SYSTEM USERS IN CALIFORNIA

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DECISION TO EXTEND CRITICAL EMERGENCY ACCESS PROTECTIONS OF ENHANCED 9-1-1 PROVISIONING TO BUSINESS CUSTOMERS AND MULTI-LINE TELEPHONE SYSTEM USERS IN CALIFORNIA

1. Summary

The objective of this rulemaking is to improve public safety in California by improving the access to the Enhanced 9-1-1 Multi-line Telephone System (MLTS),[1] a critical public safety communication tool in California. This decision directs actions necessary toward reaching that objective and will ultimately help:

- Reduce, where possible, the critical response time and effort needed by emergency response personnel to locate an injured or distressed 9-1-1 caller located within an extensive workplace or other premises comprised of several rooms, floors, or buildings, or from residential units or mobile home spaces served by a Shared Tenant Service;[2] and
- Minimize the length of time the first responders are exposed to any dangerous conditions.

This decision directs the local exchange carriers (LECs) to take actions designed to raise customer awareness of the critical Enhanced 9-1-1 MLTS safety issue, largely associated with Private Branch Exchange (PBX). This Enhanced 9-1-1 MLTS safety issue affects California's large businesses and other public

[1] In general, the term MLTS includes PBX and other similar services. In this proceeding, parties have interchangeably used references to PBX, MLTS and PBX/MLTS in the context of and in reference to the 9-1-1 caller location issues and problems associated therewith.

[2] LECs categorize as business customers Shared Tenant Service (STS) providers: "Shared tenant service is a service provided through a PBX-type switch owned and operated by a customer of a telephone corporation," 23 CPUC2d 554, 569 (January 28, 1987). STS providers, for instance, provide telephone service to residents of older multi-tenant apartment buildings, condominiums and mobile home parks.

facilities. Specifically, we direct the LECs to: (1) distribute the customer advisory brochure (PBX 9-1-1 Advisory) attached to this decision, as Appendix A, and any applicable updates, or a brochure with the same essential information, to current and prospective customers when those customers initiate services and/or request information on MLTS Enhanced 9-1-1; (2) distribute the PBX 9-1-1 Advisory, and any applicable updates, or a brochure with the same essential information, to existing businesses[3] and MLTS customers; and (3) provide links on their webpages to the Commission's CalPhoneInfo website and specifically the PBX 9-1-1 Advisory, and any applicable updates.

We also direct AT&T California to refile the tariff for its "Inform 9-1-1" service, and require all LECs, to file and/or revise their 9-1-1 tariffs such that their current and prospective business and MLTS customers are fully informed of options for provisioning accurate caller location information.

We further direct the Commission's Communications Division to: (1) continue to work with the stakeholders and parties to this proceeding by holding periodic meetings to identify and discuss problems, issues or concerns relating to the critical public safety Enhanced 9-1-1 concern associated with the MLTS in California and present them to the Commission for consideration, when necessary, in furtherance of and as part of the Commission's ongoing leadership role in raising awareness of the critical public safety Enhanced 9-1-1 concern associated with the MLTS in California; and (2) place the PBX 9-1-1 Advisory, attached to this decision as Appendix A, on the Commission's CalPhoneInfo website, and thereafter continue to maintain and make any technical updates to

[3] *Id.*

the PBX 9-1-1 Advisory, on the Commission's CalPhoneInfo website, as necessary.

Finally, we direct the Commission's Office of Governmental Affairs and the Communications Division to provide aid and otherwise further the introduction and adoption of effective legislation requiring MLTS owners/operators/lessees to provide Enhanced 9-1-1 services with accurate caller location information for their customers, generally consistent with the record in this proceeding and this decision, including Appendix B.[4]

2. Background

On April 14, 2010, we issued the Order Instituting Rulemaking (OIR) in response to growing safety concerns amongst the Public Safety Answering Point (PSAP) operators. We received reports from PSAP operators that they continued to receive inaccurate caller location information originating from multi-line telephone systems[5] (MLTS). The reports indicated that inaccurate caller location

[4] Appendix B to this decision (NENA Technical Requirements Document on Model Legislation Enhanced 9-1-1 for Multi-Line Telephone Systems, NENA 06-750, Version 3, 2011) can also be found at: http://www.nena.org/general/custom.asp?page=MLTS_Legislation.

[5] The National Emergency Number Association (NENA) defines MLTS as:

> …a system comprised of common control unit(s), telephone sets, and control hardware and software. This includes network and premises-based systems, i.e., Centrex and private branch exchange (PBX), Hybrid, and Key Telephone Systems owned or leased by governmental agencies and nonprofit entities, as well as for profit businesses. *See* Industry Common Mechanisms for Enhanced 9-1-1 Caller Location Discovery and Reporting Technical Information Documents, NENA 06-502, Version 1 at 6 (October 25, 2008).

information may be originating largely from Private Branch Exchange (PBX),[6] a type of MLTS often used by business customers[7] of California local exchange carriers (LECs). We recognized this as a serious public safety concern affecting a large number of Californians and visitors to California. Thus, we began looking into this concern and for ways to improve California's 9-1-1 emergency response system.

Currently, the California's 9-1-1 emergency response system for our state's residential customers[8] includes the critical emergency access protection of Enhanced 9-1-1 (also commonly referred to as E9-1-1)[9] provisioning which ensures delivery of accurate caller location information to the appropriate local PSAP. However, this same Enhanced 9-1-1 requirement for delivery of accurate caller location information to the appropriate local PSAP, does not extend to business and other MLTS customers. In turn, the end-users of business and MLTS customers do not have the same protection of Enhanced 9-1-1 that comes from delivery of accurate caller location information.

The Commission's vision in the OIR was to find ways to bridge this public safety gap and extend the critical emergency access protection of Enhanced 9-1-1 provisioning to the business and other MLTS customers and end-users in California.

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[6] *See supra* fn. 1.

[7] *See supra* fn. 2. "Shared tenant service is a service provided through a PBX-type switch owned and operated by a customer of a telephone corporation," 23 CPUC2d 554, 569 (January 28, 1987). LECs consider STS providers as business customers.

[8] General Order (GO) 168, as amended by Decision (D.) 06-03-013.

[9] In this decision, Enhanced 9-1-1 is referenced interchangeably as E9-1-1 or E911.

In response to the OIR as well as to construct a meaningful record while ensuring this rulemaking considers the views and ideas of all affected stakeholders, Communications Division staff initiated an outreach effort to representative stakeholders in California. Throughout this proceeding, the stakeholders actively participated in a Workshop as well a Technical Workgroup meeting. During and following those efforts, the stakeholders also made presentations and submitted comments, as discussed further in this decision.

2.1. Commission's Commitment to Public Safety

The Commission has long been a steadfast supporter of California's 9-1-1 system and been committed to promotion of that 9-1-1 system in the sea of ever changing technological advances to provide critical public safety protection to California's telecommunications consumers. This unwavering commitment has its foundation in the Public Utilities Code[10] § 451, which provides:

> … Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

True to Code § 451, in decision after decision, the Commission has promoted the "safety, health, comfort, and convenience of its patrons, employees, and the public" while carefully balancing the need for regulation to protect consumers with the need for businesses to be able to explore the market.

[10] All references to the Code in this decision are to the Public Utilities Code, unless specified otherwise.

In so doing, the Commission has uniformly reaffirmed the importance and need for 9-1-1 coverage for all telecommunications consumers and the public.

For instance, in D.06-03-013 (Decision Issuing Revised General Order 168, Market Rules to Empower Consumers and to Prevent Fraud), the Commission unequivocally announced its commitment to public safety, recognized the importance of supporting the 9-1-1 system consistent with the commitment to public safety and extended the 9-1-1 requirements to wireless carriers, stating:

> [T]he role of government at issue here -- the promotion of public safety -- is independent of the marketplace. Significant public safety considerations justify the extension of 9-1-1 requirements to wireless carriers. For some time, state and local governments have relied on 9-1-1 as the critical communications element in providing police, fire protection and emergency health service. Although the marketplace will likely drive most providers to offer 9-1-1 services, we believe that it is better to adopt these 9-1-1 requirements, rather than create a situation in which the unavailability of 9-1-1 service becomes known only in an emergency.[11]

Consistent therewith, GO 168, which set the Market Rules To Empower Telecommunications Consumers And To Prevent Fraud, specifically provides and entire section to Consumer Protection and Public Safety Rules. In part, we explicitly commit:

> The Commission intends to continue its policy of cooperating with law enforcement authorities to enforce consumer protection laws.
>
> In GO 168, Part B, in part, we also note:
>
> Rule 3: Emergency Services 911 / E911

[11] D.06-03-013 at 67-68.

> (a) All carriers and voice service providers providing end-user access to the public switched telephone network shall, to the extent permitted by existing technology or facilities and in accordance with all applicable Federal Communications Commission orders, provide every residential telephone connection, and every wireless device technologically compatible with its system, with access to 911 emergency service regardless of whether an account has been established.[12]
>
> (b) No carrier shall terminate such access to 911 emergency service for non-payment of any delinquent account or indebtedness owed to the carrier.
>
> (c) Nothing in this rule shall require a local telephone corporation to provide 911 emergency service pursuant to this section if doing so would preclude providing service to subscribers of residential telephone service.

Moreover, with some of the recent Commission decisions deregulating certain telecommunications services in California,[13] the Commission has never deregulated 911 and other emergency services nor explicitly equated 911 and other emergency services with other deregulated telecommunication services. In fact, in D.07-09-018, we found that "[t]he 911 system provides the public an important public service that must be available to all phone customers and must not be detariffed"[14] and that "[]detariffing of 911 services is not in the public interest."[15] We therefore ordered that while many services may be detariffed, we

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[12] Code § 2883 was amended in 2010 and partially modified this requirement pursuant to Senate Bill 1375.

[13] *See e.g.*, D.06-08-030; D.07-09-018; and D.07-09-019.

[14] D.07-09-018, Finding of Fact (FOF) 34.

[15] *Id.*, Conclusion of Law (COL) 22.

specifically listed "tariff for 911 or other emergency services" as an exception and ordered "911 or other emergency services" not to be detariffed.[16]

This unequivocal decision directing that 911 and other emergency services not be detariffed, coupled with an absence of language addressing the pricing of 911 in any of our other decisions, further confirms our continued conviction that 911 and other emergency services warrant different treatment and heightened protection as compared to other telecommunication services, both in terms of tariffing and pricing.

Thus, we confirm that 911 and other emergency services remain under the same protective treatment as they had been under the Commission's 1990 Resolution requiring that the rates for 911 and other emergency services be "as close to cost as possible."[17]

2.2. Enhanced 9-1-1

Californians have depended on reaching local emergency services by dialing 9-1-1 for decades. Today, the advancement of technology allows the Enhanced 9-1-1 system to automatically deliver a calling party's callback number[18] and calling location[19] along with the voice call to the appropriate local PSAP.

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[16] *Id.*, Ordering Paragraph (OP) 3-c.

[17] Resolution T-14043, Request by Pacific Bell to Offer Enhanced 9-1-1 Services Under Tariff, January 9, 1990, at 4.

[18] Through Automatic Numbering Identification (ANI), the PSAPs are able to identify the caller's number and if necessary recontact the location from which the 9-1-1 call was placed.

[19] By Automatic Location Identification (ALI).

This Enhanced 9-1-1 technology significantly improved PSAPs' ability to effectively and timely deliver critical public safety and emergency response services in countless situations. In many instances, it has proven to be an essential emergency response and life-saving tool in providing timely emergency response where the caller is unable (due to a language barrier, disability, or other exigent circumstances of the emergency) to verbally communicate caller's accurate location, including when the voice call is dropped, discontinued and cannot be reestablished.

However, we have learned from PSAPs that there has been and continues to be a glaring gap in this Enhanced 9-1-1 safety protection such that large segment of businesses and other customers of LECs and end-users, using the MLTS, namely PBX, do not currently enjoy the same level of Enhanced 9-1-1 safety protections enjoyed by our state's residential customers.

During the course of this proceeding, the two primary types of MLTS were identified and examined, hosted service and premise-based service. Hosted service is a MLTS owned, operated and managed by a utility or service provider, and housed at a LEC's local switch. Such hosted MLTS service is offered and commonly referred to as Centrex. A premise-based MLTS service is the PBX, which is owned, leased or operated by a business, government entity or non-profit organization.[20]

A Centrex caller's telephone number and address are automatically created through the LEC's service order process and are delivered to the PSAP's

[20] Workshop Report at 16.

display.[21] The PSAPs therefore did not report nor identify caller location problems associated with 9-1-1 calls originating from Centrex customers and end-users. However, the PSAPs reported serious problems with 9-1-1 calls originating from PBXs, which is a premise-based MLTS service.[22]

Thus, in this proceeding, various parties have interchangeably used references to PBX, MLTS, and PBX/MLTS in the context of and in reference to the 9-1-1 caller location issues and problems associated therewith.

2.3. The Gap in Enhanced 9-1-1 Service for MLTS

The OIR identified that over 15 million Californians, as of 2007, were employed by private businesses, nonprofits, and government bodies[23] and millions of other Californians routinely visited those businesses and other facilities (e.g., shoppers, students, patients, and other customers). Additionally, on any given day, about one million domestic and international tourists visit California's attractions, businesses, shopping centers, hotels, motels, etc.[24]

LECs serve each of these entities as their business customers,[25] many of which use MLTS. LECs also serve, as business customers, Shared Tenant Service

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[21] *Id*. at 19.

[22] *Id*. at 18.

[23] California Size of Business -- Number of Businesses by Employment Size, Industry, and County, *Table I: Number of Businesses, Number of Employees, and Third Quarter Payroll by Size of Business*, State of California, Third Quarter, 2007, Labor Market Information Division, California Employment Development Department (http://labormarketinfo.edd.ca.gov).

[24] California Travel and Tourism Commission (http://tourism.visitCalifornia.com/media/uploads/files/editor/California).

[25] This includes many residences such as college dormitories and assisted living facilities, which serve the most vulnerable segment of the community.

(STS)[26] providers. STS providers offer telephone service to residents of older multi-tenant apartment buildings, condominiums and mobile home parks. We found that business, including other non-residential, lines represent about 40% of total switched access lines in California[27] and that well over 90% of those lines were on MLTS, a significant portion of which were PBX.[28]

According to Avaya, Inc., a party to this proceeding and a manufacturer of PBX MLTS equipment, potentially 70% of all those PBX systems are not currently provisioned to display accurate caller location information to any PSAP.[29] This estimate is consistent with an AT&T California report[30] which showed that a mere 350 of AT&T California's customers with PBX phone stations in 2007 had provisioned Private Switch Automatic Location Identification (PS/ALI) location information records in AT&T California's Enhanced 9-1-1 database

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[26] "Shared tenant service is a service provided through a PBX-type switch owned and operated by a customer of a telephone corporation," 23 CPUC2d 554, 569 (January 28, 1987).

[27] OIR, at 4-5; *see also* Article 5 of the Public Utilities Code which requires California LECs to file annual reports which separately identify the number of residential and business access lines. Pursuant to D.08-09-015, URF ILECs must file Federal Communications Commission (FCC) Report 43-08, Operating Data Report including Table III – Access Lines in Service by Customer. General rate case LECs must file FCC Form M including Schedule S-3, Access Lines in Service by Customer.

[28] OIR, at 4-5: In 2007, ILECs reported 7,114,082 business switched access lines. Pacific Bell Telephone Company d/b/a AT&T California (AT&T California) and Verizon California Inc. (Verizon) provided service for 98.6 percent of that total.[ ] AT&T California and Verizon reported that 94.6 percent of their business lines were multi-line and 5.4 percent were single-line.

[29] October 2010 Workshop Report, at 9.

[30] September 2007 AT&T California Main Station Report submitted to the California 9-1-1 Emergency Communications Office.

This data is alarming, considering there were 1.3 million businesses, governmental entities and non-profits during that same time in California. While AT&T California's Enhanced 9-1-1 network does not serve all of California's PBX MLTS customers, AT&T California is the largest[31] Enhanced 9-1-1 network provider in the state, serving a majority of California's PBX MLTS customers. These figures suggest that an unacceptably large number of Californian PBX MLTS customers and end-users may be without the Enhanced 9-1-1 protections afforded to residential customers,[32] despite the recent technological and market-based advances in E9-1-1 services.

This means when a party places an emergency 9-1-1 call from a telephone station served by a PBX MLTS line and the PBX MLTS owner/operator/lessee has not proactively and voluntarily provisioned or updated the location information records in the Enhanced 9-1-1 database, the PSAP receiving such a 9-1-1 call will not be able to timely or accurately identify the particular office, dormitory room, or other detailed location of the caller. In fact, depending on the location of such main PBX MLTS, misrouted 9-1-1 calls may cause PSAPs to misdirect public safety first responders to an entirely different city or region of the state, rather than where the emergencies are and where they are actually needed by the caller.

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[31] OIR, at 4-5. In 2007, Incumbent Local Exchange Carriers (ILECs) reported 7,114,082 business switched access lines. Pacific Bell Telephone Company d/b/a AT&T California (AT&T California) and Verizon California Inc. (Verizon) provided service for 98.6 percent of that total. AT&T California and Verizon reported that 94.6 percent of their business lines were multi-line and 5.4 percent were single-line. *See* California LECs Year-2007 Total Company Number of Access Lines and Operating Revenues, Year 2007 Annual Reports.

[32] *See* GO 168.

This example illustrates why it is imperative that the MLTS owner/operator/lessee be made aware of the public safety concerns associated with certain high risk MLTS settings[33] and the essential role they each play in proactively and accurately provisioning/updating the location information records in the Enhanced 9-1-1 database. It also illustrates the need for legislation to ensure that the solution to this significant public safety concern is not left to voluntary adherence by MLTS customers.

As far back as 1995, AT&T California identified this concern and the gap in public safety communications in an advice letter to the Commission. AT&T California sought to establish the tariff item through which private switch owners/operators/lessees would be made aware of the importance of

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[33] Workshop Report, at 5-6: During the workshop, the PSAPs (1) presented that these problems occur in certain high risk MLTS installations and configurations when the PBX owner/manager does not provision accurate caller location information in the 9-1-1 database, which will result in the PSAP screen displaying the billing or main address and the phone number of the PBX trunk or network connection instead of the 9-1-1 caller's actual location and phone number, and (2) identified some of the High Risk PBX/MLTS Environments, including:

- Multiple or remote buildings and locations served by a central/host PBX with only one address and the main trunk telephone number (TN) stored in the 9-1-1 database.
- Assisted living or medical facility with a phone in each living unit or patient room, but with only the main address and front desk TN provisioned in the 9-1-1 database.
- Installations that do not provide on-site notification that a 9-1-1 call was made, and therefore the 24/7 attendant or security cannot assist the PSAP during call-back to the main billing number or trunk TN.
- Installations with no live attendant to answer a PSAP call-back to the main trunk TN.

voluntarily provisioning Enhanced 9-1-1 database records for each telephone station location, otherwise known as PS/ALI:

> Today, 9-1-1 calls placed from a PBX switch normally carries [sic] trunk number identification corresponding to the main address of the complex from which the call is placed, but no information as to the identity and location of the individual caller. This lack of a call back number, Automatic Number Identification (ANI) and the precise location information, Automatic Location Identification (ALI) can lead to 9-1-1 calls being routed to the wrong emergency agency, as well as delays in dispatching to the correct address.[34]

To date, there is still no legislative mandate that directs the MLTS owners/operators/lessees to proactively and accurately provision/update the location information records in the Enhanced 9-1-1 database. During the Workshop and the Technical Workgroup meeting, as well as in comments filed in this proceeding, the California PSAPs and other stakeholders have uniformly confirmed that this existing voluntary approach, without the legislative mandate, is not working. They also confirmed that they are continuing to experience inaccurate caller location from PBX because many of them still have not been accurately provisioned with the location information records in the Enhanced 9-1-1 database, leaving a significant segment of the telecommunications consumer population, MLTS end-users, without the Enhanced 9-1-1 protections.

[34] Advice Letter 17852 (November 6, 1995).

2.4. NENA Model Legislation and Small Business Exemption

Founded in 1982, the National Emergency Number Association (NENA) is a not-for-profit national organization[35] comprising of more than 7,000 members and 47 chapters throughout North America. Its membership is dedicated to saving lives by providing effective and accessible 9-1-1 service for North America and wherever possible, making 9-1-1 and emergency communications work better.

As an essential emergency communication tool and a critical link in the delivery of emergency services, 9-1-1, throughout its evolution, has become recognized as an asset of the North American public. NENA has been connected to 9-1-1 and its evolution every step of the way. From its inception and through assisting and promoting new system installations, to educating managers on the latest technologies and business practices to advocating on a variety of 9-1-1 emergency communications matters before various forums, NENA and its members have been intertwined with 9-1-1 during the growth and development of the 9-1-1 systems in North America.

Today, NENA has become an organization with the unique position to take 9-1-1 to new heights by becoming a leader in Enhanced 9-1-1 implementation and deployment and a staunch supporter of pending legislation before various forums, including the United States Congress, that relate to 9-1-1 system upgrades. As such, within the public safety and the

[35] Years ago, the National Telecommunications Information Administration sponsored the first three national 9-1-1 meetings in an effort to create industry awareness of 9-1-1 and collect information on emergency systems already in use. In 1982, the NENA, a not-for-profit corporation, was founded as a result of these meetings and to further the goal of "One Nation – One Number."

9-1-1 industry, NENA is widely recognized as the standard-setting organization, and its members are the experts in 9-1-1 telephony.

In this proceeding, the California Chapter of NENA (CALNENA) has appeared, presented and requested that the Commission make a recommendation to the Legislature that it adopt a legislative solution consistent with Appendix B, NENA Technical Requirements Document on Model Legislation E9-1-1 for Multi-Line Telephone Systems, Version 3, (commonly referred to and referred to herein as "NENA Model Legislation"). In so doing, CALNENA also stressed, that in order for such legislation to be effective, there must be provisions setting forth penalties for non-compliance and a mechanism for funding the compliance effort.

Also recognizing the public safety concerns that prompted this OIR, NENA and the Association of Public-Safety Communications Officials (APCO) jointly developed, along with the nationwide experts in the public safety field as well as the stakeholders, a Model Legislation on Enhanced 9-1-1 for MLTS. On February 5, 2011, NENA released the NENA Model Legislation. This NENA Model Legislation, Version 3, has been submitted to the Congress and also submitted to this Commission by CALNENA, in this proceeding, to offer a viable blueprint for an E9-1-1 law in California.

Both CALNENA, whose membership includes over 500 California PSAPs and commercial vendors providing 9-1-1 PSAP equipment and services, and the 9-1-1 County Coordinator Task Force (CCTF) support the NENA Model Legislation[36] on Enhanced 9-1-1 for MLTS as a good template for regulations in

[36] Workshop Report, at 17.

California. It is worth noting that, in order to narrowly and effectively target a solution, the NENA Model Legislation proposes to target the legislative solution only to those larger business customers and MLTS customers, and not burden the smaller businesses (generally with less facilities and limited physical boundaries) with an overly broad legislative response. During the Workshop, Avaya, a member of NENA's national technical group that drafted and updated the NENA Model Legislation, explained that as part of the NENA Model Legislation drafting efforts, the MLTS owners anticipated, discussed, proposed and stressed the importance and need to include this small business exemption in Enhanced 9-1-1 legislation to eliminate undue burden to smaller businesses and MLTS owners/operators/lessees.[37]

In fact, an analysis of the NENA Model Legislation[38] show approximately 95% of California businesses fall into the smaller businesses category.[39] Therefore, with the proposed small business exemption provision, those businesses would not need to implement Enhanced 9-1-1 MLTS solutions because their worksites will likely be small enough for emergency responders to

[37] *Id.* at 9.

[38] Appendix B to this Order provides a detailed description of the pertinent NENA recommended provisions.

[39] Workshop Report, at 19: The PSAPs did not identify problems with 9-1-1 calls from small businesses at a single location or from a Centrex customer, and the NENA Model Legislation identified the following examples of acceptable exemptions which may be viewed as a proxy for low risk MLTS environments: (a) A contiguous location on one floor of less than 7,000 square feet; (b) Key Telephone Systems (since they serve a small number of phone extensions); and (c) On premise interception authorized by law and supported by training.

search through readily and quickly.[40] The remaining 5% of the larger businesses and MLTS customers, that employ 9,521,366 Californians or 60.5% of the California workforce and serve countless visitors, customers, clients and tourists, are the business MLTS customers and end-users that require this critical E9-1-1 emergency services protection and would benefit from Enhanced 9-1-1 legislative mandate.

Thus, the NENA Model Legislation reasonably extends this critical Enhanced 9-1-1 emergency service protection to these large business MLTS customers and end-users, to save countless lives of Californians and tourists. At the same time, its small business exemption provision reduces hundreds of millions of dollars in economic costs by exempting approximately 95% of California's smaller business MLTS customers to eliminate unnecessary mandate to those smaller businesses that do not require Enhanced 9-1-1 protection due to limited physical limits of those businesses. We find this legislative approach to be prudent and balanced.

2.5. Federal Activities on Enhanced 9-1-1 and NENA Model Legislation

Starting in 1994 and through several proceedings, the Federal Communications Commission (FCC) too has examined the problems of identifying the location of 9-1-1 callers using MLTS.[41] In its

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[40] Some parties caution that the Model Legislation's broad exemption for small workplaces may be overly broad, as written, and should be reviewed and refined to more accurately reflect on-site conditions.

[41] *See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 9-1-1 Emergency Calling Systems*, CC Docket No. 94-102, Report and Order and Second Further Notice of Proposed Rulemaking (FNPRM), 18 FCC Record (Rcd) 25340, 25361-62, paras. 49-50 (2003) (*E9-1-1 Report and Order and Second FNPRM*). *See also*

Footnote continued on next page

2003 Enhanced 9-1-1 Report and Order and Second Further Notice of Proposed Rulemaking,[42] the FCC expressed concern "that the lack of effective implementation of MLTS Enhanced 9-1-1 could be an unacceptable gap in the emergency call system…."[43] The FCC also made a number of findings including a finding that said a "variety of technologies and vendors exist currently that make Enhanced 9-1-1 compliance in the MLTS context quite feasible" and that "States are in a unique position to coordinate the disparate elements necessary for MLTS Enhanced 9-1-1 implementation."[44]

Thereafter, in 2004, the FCC continued to follow the states' activities responsive to the Enhanced 9-1-1 and MLTS caller location issue and queried the states about the utilization of the NENA Model Legislation[45] on Enhanced 9-1-1 for MLTS developed by NENA and APCO, while commenting:

> [W]e believe that the Model Legislation submitted by NENA and APCO offers the states a valuable blueprint for their own

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Revision of the Commission's Rules to Ensure Compatibility with Enhanced 9-1-1 Emergency Calling Systems, CC Docket No. 94-102, IB Docket No. 99-67, FNPRM, 17 FCC Rcd 25576, 25605-07, paras. 82-85 (2002) (*E9-1-1 Scope NPRM*); and *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 9-1-1 Emergency Calling Systems,* CC Docket No. 94-102, Notice of Proposed Rulemaking, 9 FCC Rcd 6170, 6170-73, paras. 1, 8, 11, and 12 (1994).

[42] 18 FCC Rcd 25340 (2003).

[43] *Ibid.*

[44] *Ibid.*

[45] This FCC reference to the NENA Model Legislation is to a prior version of the NENA Model Legislation than the Version 3 attached to this decision as Appendix B.

> laws [and] we strongly support the approach taken by the model legislation.[46]

At that time however, FCC declined to adopt federal rules to address this issue, explaining that state and local governments may be in a better position to devise such rules for their jurisdictions.[47] Since then only a few of the states responded to the FCC's public notice[48] and about a third of the states enacted new legislation adopting Enhanced 9-1-1 requirements for MLTS, bringing the current total to 17 states with such legislation.[49]

On February 22, 2012, Congress passed the Next Generation 9-1-1 Advancement Act of 2012[50] which recognizes that there still continues to be an outstanding public need in the emergency E9-1-1 call system and lack of effective implementation of MLTS E9-1-1, as previously noted in the FCC's E9-1-1 Scope Report and Order. Specifically, Section 6504(b) of the Next Generation 9-1-1 Advancement Act directs the FCC to once again revisit and examine this public safety issue and seek comment on (1) the feasibility of MLTS

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[46] Enhanced 9-1-1 Report and Order and Second FNPRM, 18 FCC Rcd at 25361-62, para. 50 and n. 179.

[47] FCC DA 04-3874, at 2 (December 10, 2004).

[48] Verizon Communications' comments in CC Docket No. 94-102**,** at 2-4 **(**February 28, 2005), noted that there was little need for federal rules since competitive Enhanced 9-1-1 solutions were readily available for all MLTS systems from carriers and third parties, and because states were the best venue to address this issue.

[49] *See* OIR, Appendix D (Alaska, Arkansas, Colorado, Connecticut, Florida, Illinois, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, Texas, Vermont, Virginia, and Washington); and in 2011, Michigan became the seventh state to pass Enhanced 9-1-1 requirements for MLTS.

[50] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96 (2012), Title VI, Subtitle E (Next Generation 9-1-1 Advancement Act).

to provide the precise location of a 9-1-1 caller, and (2) the NENA Model Legislation.[51] In compliance therewith, on May 21, 2012, the FCC again issued a public notice and request for Comment [52] and once again opened a proceeding. That latest FCC proceeding is currently underway.

3. OIR Procedural History

The OIR directed the LECs to comment on several issues relating to improving public safety by extending the Enhanced 9-1-1 services to business customers and for other MLTS customers, including:

(1) LECs' business practice relating to defining and classifying residential and business customers, including assisted living facilities, STS providers, college dormitories, and other end-user premises that are primarily residential in nature;

(2) LECs' terms of interconnection agreements relating the providing Enhanced 9-1-1 service to all their customers, including business customers;

(3) LECs' costs of providing Enhanced 9-1-1 service to all of their residential customers in comparison to business customers, if the costs are different and explanations of the differences;

(4) Whether the LECs offer PS/ALI service, whether such service is tariffed, and if so, how much;

(5) The availability of Enhanced 9-1-1 service in California, including MLTS E9-1-1 solutions services; and

(6) Whether the NENA Enhanced 9-1-1 Model Legislation should be adopted in California.

[51] *See* Appendix B to this decision.

[52] FCC DA 12-798, at 2 (May 21, 2012).

Comments were filed in response to the OIR on May 10, 2010 by: Calaveras Telephone Company, Cal-Ore Telephone Co., Ducor Telephone Company, Foresthill Telephone Co., Happy Valley Telephone Company, Hornitos Telephone Company, Kerman Telephone Company, Pinnacles Telephone Co., The Ponderosa Telephone Company, Sierra Telephone Company, Inc., The Siskiyou Telephone Company, Volcano Telephone Company, and Winterhaven Telephone Company (Small LECs); California Association of Competitive Telecommunications Companies (CALTEL); Citizens Telecommunications Company of California Inc. d/b/a Frontier Communications of California (Frontier); Division of Ratepayer Advocates (DRA); Pacific Bell Telephone Company d/b/a AT&T California (AT&T California); SureWest Telephone and SureWest Televideo (SureWest); Telecommunications Systems, Inc. (TCS); and Verizon California Inc., MCI Communications Services, Inc., d/b/a Verizon Business Services, MCImetro Access Transmission Services, d/b/a Verizon Access Transmission Services, and TTI National, Inc., d/b/a Verizon Business Services (Verizon).

On June 16, 2010, the assigned Commissioner and Administrative Law Judge (ALJ) issued a scoping memo and ruling and ordered workshops to begin a review of the issues raised in the OIR. On July 26 and 27, 2010, the Commission's Communications Division held and led the Workshop, which covered a range of issues with presentations from parties and other entities.[53]

[53] Other entities that made presentations and/ or handed out materials include CALNENA, the California 9-1-1 Emergency Communications office (9-1-1 Office), the County Coordinators Task Force (CCTF), Avaya, Creative Interconnect Communications LLC, RedSky, TCS, 9-1-1 ETC Inc. (911 ETC), California State

Footnote continued on next page

Thereafter, in October 2010, the Commission's Communications Division prepared and submitted a workshop report and recommendations (Workshop Report).

October 20, 2010, the assigned Commissioner and ALJ issued an amended scoping memo ruling and received the Communications Division's October 2010 Workshop Report,[54] including the workshop presentations, into the formal record.

On January 27, 2011, the Communications Division held a Technical Workgroup meeting to examine the business practices of the LECs relating to the provisioning of multi-line services.[55] The Communications Division's Technical Workgroup Summary was submitted to the ALJ.

On May 2, 2011, the ALJ circulated the Technical Workgroup Summary for comment, soliciting comments on a proposed customer advisory brochure, on information to be placed on the CalPhoneInfo website,[56] and on the parties' positions and views concerning the NENA Model Legislation, with the February 5, 2011 updated NENA technical requirements document.

University, Fullerton, and Facey Medical Foundation. Parties that made presentations include AT&T California, CalTel, Frontier, the Small LECs, SureWest, and Verizon.

[54] On November 22, 2012, DRA and AT&T California filed comments on the Workshop Report.

[46] The Technical Workgroup was attended by additional entities, including the California Cable & Telecommunications Association, Comcast, Cox, Astound, the San Francisco Department of Emergency Management, the Los Angeles Police Department, and Commissioner Simon's advisor, Cristhian Escober.

[56] The CalPhoneInfo website is a Commission website that provides consumers with important information about telephone services.

On June 1, 2011, comments were filed in response to the May 2, 2011 ruling, by the Small LECs, RedSky Technologies, Inc., Avaya, Inc., CALTEL, City of San Francisco, AT&T California,[57] California Cable and Telecommunications Association (CCTA) and Verizon.

On September 15, 2011, the ALJ issued a ruling seeking comments concerning charges, rates and utilities' costs associated with primary rate interface integrated services digital network (PRI ISDN)[58] trunks and additional charges to deliver the ANI from a PBX on a 9-1-1 call to the 9-1-1 database. Comments, in response to the September 15, 2011 ruling, were filed by Frontier, Time Warner Cable Information Services, LLC, Small LECs, SureWest, Verizon, AT&T California, and Cbeyond Communications, LLC. (Cbeyond).

On March 8, 2012, the assigned Commissioner and ALJ issued a joint ruling setting a briefing schedule.[59] Parties filed their opening and reply briefs in March and April of 2012. Opening briefs were filed by Cbeyond, Frontier, Small LECs, SureWest, Verizon, AT&T California, and DRA. Reply briefs were filed by Verizon, AT&T California, and DRA.

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[57] AT&T California (U1001C); AT&T Communications of California, Inc. (U5002C); TCG San Francisco (U5454C); TCG Los Angeles, Inc. (U5462C); TCG San Diego (U5389C); AT&T Advanced Solutions, Inc. (U6346C); and New Cingular Wireless PCS, LLC (U3060C).

[58] According to Newton's Telecom Dictionary, PRI ISDN is the equivalent of a T1 circuit at total signaling speed of 1.544 Megabytes per second in support of 24 channels.

[59] On April 2, 2012, the ALJ issued a ruling granting DRA's request for extension to file the opening and reply briefs and revised the briefing schedule for all parties, accordingly.

4. Jurisdiction

The Commission's jurisdiction and authorities will determine what action, if any, could, may, and/or must be undertaken to begin addressing the public safety need identified in this proceeding.

The Commission has primary statutory responsibility for the intrastate rates, services, and operations of entities providing telecommunications services in California under license from the Commission as "telephone corporations."[60] The Commission's authority to regulate telephone corporations derives from both the California Constitution,[61] and various sections of the Code.[62]

Code § 451 directs the Commission to ensure that:

> … Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

Likewise, Code § 701 also gives the Commission broad authority to regulate utilities in all respects, including with respect to consumer protection matters.

While we recognize that the Commission's broad duties under Code §§ 451 and 701 extend to the telecommunications consumers, we also recognize the Commission's authority to regulate the carriers does not extend to those California's telecommunications consumers. In particular, the FCC has

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[60] *See* Code § 234.

[61] *See* Art. 12, § 3.

[62] Code §§ 216, 233, 234, and 451 are particularly relevant to the discussion here.

deregulated the manufacture and distribution of customer premises equipment (CPE), and states have no role whatsoever in overseeing CPE manufacture or distribution.[63] While various statutes may affect the lawful use of telecommunications facilities (e.g., prohibitions against use of such equipment for illegal purposes, which can lead to disconnection of service), in general, the Commission cannot compel customers either to install specific facilities or to subscribe to specific services. Therefore, while the Commission's public safety duties and authorities are broad, our regulatory reach has its limits such that, to the extent that private businesses have purchased, installed, and operate CPE on their premises, oversight of that CPE falls to the businesses and not to the Commission.

In addition, we note that primary responsibility for the operation and maintenance of the 9-1-1 system may rest with other state agency(ies) such as the California Technology Agency, not to the Commission. Thus, we must acknowledge that the Commission's ability to fully effectuate an Enhanced 9-1-1 solution in California is limited to those actions that fall within the scope of the Commission's authority.

Despite the jurisdictional limitations, in this proceeding, the Commission approached this Enhanced 9-1-1 issue without hesitation and rallied service providers/carriers to "step up to the plate" and be proactive about this public safety issue, consistent with the general principles, concepts and actions we set

[63] CPE manufacturers are required to comply with FCC regulations intended to prevent interference with other types of equipment and/or any potential harm to the interconnected telecommunications network.

out in our recent decisions, particularly the following passages in D.06-03-013 (Decision Adopting and Issuing Revised General Order 168),[64] that:

1) Consumers have a right to expect that providers of voice services utilizing numbers from the North American Numbering Plan and connecting to the Public Switched Telephone Network will offer reliable connections to E911 emergency services and Public Safety Answering Points, and to clear and complete disclosure on access to 911 emergency services through the use of those services;[65] and
2) Consumers have a right to receive clear and complete information about any limitations affecting the services they select, including limitations on bandwidth, applications or devices that may be used in connection with their service.[66]

Ultimately, the stakeholders have come together in the course of this proceeding to present recommendations that are both within and outside the Commission's jurisdiction and regulatory powers to help solve the Enhanced 9-1-1 concern in California. Below, we review those recommendations and direct those actions, within our authority.

5. Issues Before the Commission

This OIR was originally filed to institute a rulemaking proceeding to "Improve Public Safety by Determining Methods for Implementing Enhanced 9-1-1 Services for Business Customers and for Multi-line Telephone System

64 Issued on March 2, 2006.

65 D.06-08-013, at C-30.

66 *Id*. at C-2.

Users."[67] The Scoping Memo Ruling, dated June 16, 2010, identified two issues to be resolved in this proceeding:[68]

- Examine Enhanced 9-1-1 provisioning for single and MLTS used by local exchange business customers; and
- Extend through Commission rules, utility tariffs, contracts and interconnection agreements or a proposal to the state legislature the protections of Enhanced 9-1-1 service to those telephone systems utilizing traditional analog and digital voice telephony or fixed and nomadic Voice over Internet Protocol telephony.

6. Workshop and Technical Workgroup

6.1. Workshop

On July 26 and 27, 2010 the Communications Division held a public Workshop. The Workshop was largely informational in nature and the stakeholders addressed three main subject areas:

1) Identify the public safety need for accurate caller location information on 9-1-1 calls;
2) Describe how public utilities and other service providers work with business customers in implementing best practices for provisioning caller location information needed for timely emergency response; and
3) Identify the feasibility and cost to businesses and other property owners of provisioning caller location information needed by PSAPs and field responders.

[67] OIR, filed April 8, 2010.

[68] Scoping Memo Ruling dated June 16, 2010, at 2.

6.1.1. Confirmation of Continued Public Safety Need for Accurate Caller Location

Since the issuance of the OIR and throughout the proceeding, including the Workshop, the PSAPs repeatedly confirmed that their primary concern is that inaccurate reporting of MLTS information to an appropriate PSAP is a major continuing public safety concern that causes delayed response to emergency situations. The PSAPs presented examples of representative problems with 9-1-1 calls originating from PBX MLTS at large hospitals, public schools, large businesses, chain stores, local government installations, and assisted living facilities -- in all regions of California, within small towns and the state's largest metropolitan areas.

The PSAPs reported that the most common problems are misrouting of 9-1-1 calls originating from MLTS to an entirely wrong PSAP, sometimes in a different city or region of the state, and delivery of wrong caller location information to the proper PSAP. These problems then lead to misdirecting of emergency response to a location other than the caller's actual location and telephone number (TN) and cause:

- limited public safety resources being diverted to the wrong location;
- delayed response to an emergency while correct location must be identified; and
- other life threatening situations.

More specifically, the PSAPs reported that these problems occur in certain high risk MLTS installations and configurations when the MLTS owner/manager does not provision accurate caller location information in the 9-1-1 database, which will result in that the PSAP's screen displaying the billing or main address (as the caller location) and the phone number of the MLTS trunk or network connection (as the caller location) instead of the 9-1-1 caller's actual location and phone number.

The PSAPs identified the following High Risk MLTS Environments:

- Multiple or remote buildings and locations served by a central/host MLTS with only one address and the main trunk TN stored in the 9-1-1 database;
- Assisted living or medical facilities with a phone in each living unit or patient room, but with only the main address and front desk TN provisioned in the 9-1-1 database;
- Installations that do not provide on-site notification that a 9-1-1 call was made, and therefore the 24/7 attendant or security cannot assist the PSAP during call-back to the main billing number or trunk TN; and
- Installations with no live person attendant to answer a PSAP call-back to the main trunk TN.

No other workshop participants presented information or comments contrary to the PSAPs' presentation and confirmation of the continuing public safety need for an accurate caller location in MLTS setting. To date, this public safety concern remains unresolved.

6.1.2. Public Utility Tools, Services, and Best Practices for Provisioning MLTS Phone Station Information in the 9-1-1 Database

Through the Workshop efforts, we also examined the current industry tools, services, and practices relevant to this rulemaking to help us understand all of the pertinent operational or logistical issues. For instance, AT&T California and Verizon each offer an optional web-based PS/ALI[69] service which permits a MLTS owner/operator/manager to provision accurate caller location information in the 9-1-1 database. PS/ALI services are available to any MLTS owner/operator/manager in California including the customers of the competitive LECs and ILECs. The customers would need to contact the service provider to arrange for subscribing to PS/ALI service and the additional services that permit delivery of the 9-1-1, ANI or Calling Party Number[70] (CPN) from the MLTS phone station to the appropriate PSAP. Third parties observed that AT&T California's PS/ALI one-time tariff rate is very low compared to PS/ALI tariffs in other states.[71]

AT&T California and Verizon correctly noted that there is significant customer role and responsibility to establish, submit and maintain accurate and up-to-date 9-1-1 database records of MLTS end-users' phone stations. In addition, the PS/ALI customer is required to purchase additional services including Direct Inward Dial (DID) TNs for end-user phone extensions, and in some cases, circuits for transport of the MLTS phone station ANI or CPN to the 9-1-1 network.

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[69] *See supra* at 14-15, PS/ALI as explained in detail.

[70] Sometimes erroneously referred to by parties as Caller ID.

[71] Workshop Report, at 6.

The utilities reported that most current PS/ALI customers utilize their existing PRI ISDN[72] circuits to deliver the 9-1-1 voice call with the associated phone station ANI to the local switch, for routing to the appropriate PSAP.[73] AT&T California's PRI ISDN customers who wish to send the phone station ANI with the 9-1-1 voice call are subject to additional non-recurring and recurring monthly charges.[74] Verizon does not charge its PRI ISDN customers for sending the PBX MLTS 9-1-1 phone station ANI or CPN to the local switch.

Per its Workshop presentation, Verizon revised its PS/ALI tariff to streamline the process, minimize the need for customer legal review of individual case basis contracts, reduce total customer costs, and eliminate utility monthly billing expenses.[75]

Neither utility offers XML[76] formatting for customer transmittals of PS/ALI database records which can serve as a basis for programming automatic data exchange between a customer's computer system and the 9-1-1 database.[77] However, AT&T California notes that the additional fields associated with XML

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[72] PRI ISDN is the equivalent of a T1 circuit in support of 24 channels.

[73] Workshop Report, at 20.

[74] Inform 9-1-1 for ISDN PRI as described in AT&T California Guidebook, Part 17, Section 2.

[75] Verizon Advice Letter 12530, 10/24/2010.

[76] According to Newton's Telecom Dictionary, Extensible Markup Language (XML) "allows companies to automatically order from and sell to each other -- without having to have a human in between physically translating between the different systems. The vast bulk of the largest companies in the world use XML for electronic transactions with their customers or suppliers."

[77] As described by the NENA Data Technical Committee in its recommendation for adoption of NENA Version 4 for PS/9-1-1 data exchange, NENA-06-003 Private Switch (PS) E9-1-1 Database Standard, at 8.

may not be compatible with current PSAP ALI display and CAD configurations.[78]

LECs did not provide examples of written standard operating procedures or Best Practices policies which instruct sales and customer service personnel on how to inform and assist customers regarding MLTS Enhanced 9-1-1 issues. Several carriers acknowledged that their business processes in this regard need to be improved, and plan to upgrade their internal protocols and information resources to support increased concern from customers about access to emergency services and interest in Enhanced 9-1-1 solutions.[79]

6.1.3. Feasibility and Costs to Businesses and Other Property Owners of Provisioning MLTS E9-1-1 Caller Location Information

The Workshop also brought forth industry insights on issues of operational and technological feasibility as well as concerns of costs to businesses and other property owners of provisioning MLTS Enhanced 9-1-1 Caller Location Information. MLTS equipment manufacturer Avaya, Inc. and other third party Enhanced 9-1-1 solution providers identified several current trends that have made solutions more feasible for the MLTS owner/operator, and presented the following:

- For the last ten years, major equipment manufacturers have built Enhanced 9-1-1 capabilities into new models and MLTS upgrades. It is very rare to find an MLTS in use that cannot be easily programmed to deliver the caller ID needed to retrieve caller location information (e.g., Avaya's presentation at the Workshop illustrated that all modern MLTSs have built-in

[78] Comments of Pacific Bell to the Workshop Report, November 22, 2010, at 3.

[79] Workshop Report, at 7.

capability to send the ANI of the 9-1-1 caller to the 9-1-1 database if the MLTS operator simply activates the option and creates and maintains the phone station records in the 9-1-1 database. The presentation is part of the proceeding record and no party objected to that finding.) Lower cost PRI ISDN circuits are now more common, and expensive mileage-based Centralized Automatic Message Accounting (CAMA) trunks are no longer required.

- Third party MLTS Enhanced 9-1-1 solutions are continuing to go down in cost and are available for under $5,000. Small business solutions can be as low as $1,250 for a one-time implementation fee and $65 to $100 per month in recurring fees.
- The VoIP MLTS platform natively provides improved support for 9-1-1 for multi-location customers, and automated solutions can discover and update phone locations as they change which greatly reduces the administrative burden and cost to the business owner of tracking Moves/Adds/Changes in a VoIP installation.
- SIP Trunking is more available from Internet Telephony Service Providers (ITSP) permitting the smallest enterprise VoIP PBX system to send ANI with the 9-1-1 call.

Third party solution providers also offered several case studies involving implementation of MLTS Enhanced 9-1-1 for California clients. Examples ranged from one time implementations at a single location on a project completed within a month, to major turnkey installations requiring high-value project management and on-going database maintenance for clients with extensive facilities and multi-state locations.

The third party solution providers acknowledged that educating the customer about MLTS Enhanced 9-1-1 public safety needs must be part of the sales process and that flexibility in approach is needed since most customers do not have everything in place to implement a solution, and utilizing existing

customer databases (HR, telephone station lists or phone logs) reduces the burden on the customer. Third party solution providers also indicated that their customers are resistant to being bothered with maintenance, but the practice of daily maintenance must be emphasized.

The same third party solution providers also emphasized that site audits have proven helpful and therefore are important for developing a plan for maintenance, and establishing a reminder system that emails the MLTS customer about accurate updates. They noted that for large facilities they served, they effectively provisioned automated on-site notification to customer security or management, utilizing screen pop ups and short message service (SMS) text messages.

During the Workshop, the California 9-1-1 Office provided copies of representative emails it has received from MLTS owners, installers and other service providers which revealed that many of those businesses and public agencies wish to provision accurate E9-1-1 caller location information, but have experienced difficulties and frustration in getting information from service providers or locating resources on best practices. Specifically, the California 9-1-1 Office presented 13 recent examples of requests it has received from MLTS customers/users, such as schools, hospitals, network engineers, consultants, counties, medical providers, equipment suppliers, insurance companies, security consultants, solution providers, and Voice Positioning Centers (VPCs) requesting information on MLTS E9-1-1 guidelines, regulations, legal requirements, or best practices.

Facey Medical Foundation, a non-profit, multi-specialty, multi-site healthcare provider group with 150 physicians providing healthcare services to over 150,000 residents of Los Angeles County, also submitted written comment as a PBX MLTS owner/operator in support of this OIR and the need for extension of E9-1-1 emergency communication tools and protection to the MLTS end-users.

In general, the information presented on behalf of these individual businesses and MLTS owners/operators/lessees confirmed the concern noted by the PSAPs in this proceeding of the continuing public safety caller location problems, continued lack of information for the MLTS owners/operators/lessees, and a need to develop a solution, including regulations, public outreach and proactive customer assistance from telecommunications providers.

California State University Fullerton provided case studies of how MLTS E9-1-1 was provisioned on three Cal State campuses utilizing PS/ALI and campus phone station location databases.

Utilities did not offer information about the views of their MLTS customers regarding the feasibility and cost of provisioning E9-1-1 caller location information.

6.1.4. Workshop Participants' Recommendations

The Workshop participants reached several conclusions and presented associated recommendations, as detailed in the Workshop Report, and some specifically for the Commission's consideration, as follows:

1) The participant from the California's 9-1-1 Office recommended that the Commission should create a reference point on its website with guidelines, educational materials, links to other resources, and a statement of benefits to ensure

that the MLTS end-user has access to 9-1-1 with the accurate location provisioned and displaying at the responding PSAP.

2) The PSAPs and other parties emphasized the need for a legal requirement on MLTS owners/operators/lessees with penalties for non-compliance, since carriers and other service providers cannot compel the provisioning of MLTS caller location:

   - Avaya, Inc. estimates that 70% of all PBX MLTS are not provisioned to display accurate caller location information to the responding PSAP;
   - There are solutions in place for all technologies, and the only allowance should be for older MLTS that cannot be programmed to deliver phone station caller ID which is very rare;
   - MLTS owners/operators/lessees are often aware of these problems following the passage of a state Enhanced 9-1-1 mandate, but without a penalty there is usually no compliance. In contrast, when Massachusetts passed its MLTS Enhanced 9-1-1 law with penalties, business owners proactively contacted solution providers to arrange compliance; and
   - In some states, the fire marshal will make some test calls to 9-1-1 during his inspection in order to determine that the correct location is being shown.[80]

[80] The Revised Code of Washington (RCW 38.52.505) describes the role of the local fire protection officer in the implementation of Washington Administrative Code Title 118 Chapter 118-68-050: Inspection for compliance with the adequacy of automatic location information displayed at the PSAP when 911 calls are made.

3) The PSAPs recommend adoption of the NENA Model Legislation for MLTS Enhanced 9-1-1[81] as a good template for regulations. Avaya worked on the national technical group that wrote it, and concluded that because MLTS owners were part of the effort, the model regulations should not be a burden to MLTS owners. Several participants agreed that the NENA Model Legislation's 7,000 square foot exemption for small workplaces may be too broadly written and should be refined to more accurately reflect on-site conditions. Avaya suggested that a fire safety inspection may offer the best approach for determining small business requirements and acceptable exemptions.

6.2. Technical Workgroup

In addition to the Workshop, on January 27, 2011, the Communications Division held a public meeting of a Technical Workgroup to address the Business Practices of Utilities and Local Service Providers related to the provisioning of multi-line services. The Technical Workgroup was tasked (1) to find ways to improve customer information and awareness of the Enhanced 9-1-1 limitations associated with MLTS phone systems, and (2) to clarify the roles and responsibilities of MLTS owners, carrier/local service providers, third parties, and government agencies responsible for public safety in meeting this goal. Stakeholders attending in person and via phone and video conference represented the following organizations:

- Service providers: Verizon California, AT&T California, CALTEL, Frontier, SureWest, the Small LECs, Cox, Comcast, Time-Warner, CCTA, and Astound;

[81] *See* Appendix B, the NENA Technical Requirements Document on Model Legislation E911 for Multi-Line Telephone Systems, NENA 06-750, Version 3, 2011.

- Public safety agencies: CALNENA, San Francisco Dept. of Emergency Management, Los Angeles Police Department, CCTF, and California 9-1-1 Emergency Communications Office (CA 9-1-1 Office); and
- Others: Avaya, 911 ETC, RedSky, DRA, Commissioner Simon's Office, Orange County, and Communications Division.

Discussions of the Technical Workgroup centered on agenda items related to proposals from carriers and Communications Division for a customer advisory and disclosure, the FCC Enhanced 9-1-1 requirements of IP-enabled service providers, and service provider's charges to pass through the phone station ANI on a 9-1-1 call from an MLTS.

6.2.1. Customer Advisory and Disclosure

In response to Communications Division's request for proposals from service providers on how best to raise customer awareness of the E9-1-1 limitations of MLTS phone systems, AT&T California, Verizon, Frontier, SureWest, CALTEL, and the Small LECs submitted a proposal as the "Joint Carriers." The "Joint Carriers" developed and presented a proposed customer advisory brochure that:

- Identified the potential Enhanced 9-1-1 problems and risks associated with a PBX and advised that the customer must act to address the problem;
- Identified various types of available solutions and options, but did not recommend a specific solution in recognition of the different types of customer premise equipment and networks;
- Recommended the development of a plan to educate students and/or employees of phone system limitations, identify options for accessing 9-1-1, work with local public safety agencies, and test and update the plan routinely; and
- Provided links to additional information resources at the Commission and other websites.

Carrier and cable representatives emphasized that a customer advisory brochure should not attempt to be all inclusive, but afford service providers the flexibility to address differences in customer sophistication, PBX or other MLTS equipment and communication technologies. Service providers asked the CCTF to review and update the customer advisory brochure by identifying the process by which PBX MLTS installers and owners/operators/lessees can work with local 9-1-1 county coordinators on testing call routings.

Attendees agreed that such a customer advisory brochure filled an important need for a customer education and advisory document, and generally met Communications Division's objectives of being competitive and technology neutral, having a targeted message, and minimizing costs and burdens on service providers. However, the "Joint Carriers" argue they should not distribute the customer advisory brochure to current business customers because individual provider customer databases do not contain sufficient detail to identify the equipment and services of large business customers. Carriers were concerned that a blanket distribution would cause confusion and not target the customers that need the advisory. Instead, they proposed several different channels for customer notification that they would support:

- Prospective customers with an MLTS would be handed/sent the customer advisory brochure, and carrier personnel would review and discuss the issues and Enhanced 9-1-1 options with the customer;
- Existing customers would be addressed on a case-by-case basis, and focus on customers experiencing misroutes of 9-1-1 calls (where the call goes to the wrong PSAP or there is wrong location information in the 9-1-1 record). Carriers believe that a greater impact results when a representative of public safety meets with the MLTS customer to explain the misroute problem, present the customer advisory brochure and the need

to implement an accurate Enhanced 9-1-1 solution, and discuss potential enforcement and non-compliance actions; and

- Carriers requested that Communications Division host the customer advisory brochure on the Commission's website to maintain version control as technology evolves, and provide an authoritative location for electronic access by all interested parties. The customer advisory brochure would then be viewed as non-advertising and more legitimate, and carriers could then link from individual websites to the Commission's webpage. It was noted that smaller carriers rely on the CalPhoneInfo website.

Public safety attendees pressed for a more comprehensive plan for contacting the installed PBX MLTS base since they represent the parties who are generating the problem now. DRA noted that telephone and communication system installation companies are subject to the California State License Board regulations on contractors, which include an education component.[82] Attendees stressed the value of the Commission establishing a single central website providing a uniform message, and serving as a resource center for business customers. The CCTF agreed to review and amend the customer advisory brochure to describe its role in working with customers on testing and misroutes -- subject to reimbursement by the CA 9-1-1 Office. Communications Division has since taken all of the comments of the stakeholders and has prepared the attached revised customer advisory brochure which can be hosted on the Commission's CalPhoneInfo website.[83]

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[82] http://www.cslb.ca.gov/GeneralInformation/Library/LicensingClassifications/C-7LowVoltageSystems.asp.

[83] *See* Appendix A of this decision.

In filed comments, CCTA clarified that it supports the distribution of the attached revised customer advisory brochure, that some cable companies serve large business customers, and that they can provide Enhanced 9-1-1 related information in contract agreements.[84] Cox independently agreed to provide a URL to customers either in the information they plan to send to them or its website (or both), and planned to offer a PS/ALI service at a future date.[85]

The Small LECs were concerned about the burden on small carriers of revising websites to link to a Commission's webpage, but the Communications Division staff noted that only those carriers offering multi-line and network services for MLTS customers would need to provide a link, thus exempting smaller carriers without such services. Consequently, SureWest and the Small LECs do not object to the link requirement provided that it is limited to their existing "'web pages' offering PBX/Enterprise multiline and/or network services," and that the carriers are not required to create a page simply to provide such a link.[86]

Attendees of the Technical Workgroup meeting offered other examples and opportunities for outreach and education of PBX MLTS customers. AT&T California presented its webpage designed to educate PBX MLTS customers about the need for accurate identification of emergency calls and 9-1-1 solutions that provide more refined caller accuracy with PBX MLTS phone systems.[87]

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[84] CCTA Comments, June 1, 2011, at 2-3.

[85] Cox California Telecom, Advice Letter 992, December 13, 2011.

[86] SureWest and Small LECs Comments, June 1, 2011, at 9.

[87] http://www.business.att.com/enterprise/Service/voice-services/local/911-pbx-solutions/.

CALTEL provided examples of several competitive LECs' web pages that alerted and advised customers of the Enhanced 9-1-1 limitations of IP-based bundled and managed services, and the need for first responders to have the correct physical location of 9-1-1 calls.[88] Comcast suggested that the Commission's Public Affairs Office should work with the California Chamber of Commerce and broadcast the message to the larger business communities.

CALNENA pressed for a plan that would require existing MLTS customers to comply with a regulation or law requiring accurate caller location information within five to ten years. The Communications Division generally agrees with CALNENA, but also believes the Legislature would need to create a legal mandate directing MLTS owners/operators/lessees to employ technology that ensures accurate caller location information. While AT&T California does not disagree with CALNENA and the Communications Division, AT&T California forecasts that with the fast changing communications technology, many customers may not be served by carriers under the Commission's jurisdiction in five or more years due to transition to new technology. Therefore, AT&T California suggests that perhaps the Commission may wish to withhold action on this issue for the time being.

However, this suggestion is not persuasive when we are facing a present and critically unmet public safety need, including an urgent need to educate Californian businesses, MLTS users/owners/operators/lessees regarding this significant public safety problem. Regardless of any anticipated technological

[88] http://www.xo.com/forms/Campaign/Legal/ManagedServices911/ManagedServices911.aspx; http://www.cbeyond.net/business/e911-service.htm; and http://www.level3.com/Resource-Library/Brochure/E-911-Direct.aspx.

advancements or regulatory changes, there is a significant public safety concern within the Commission's jurisdiction to take action where appropriate and to educate and ensure the MLTS users/owners/operators/lessees understand the important underlying public safety need and the need to employ attendant technology that ensures accurate caller location information in their communications.

As part of the outreach and education component, RedSky created and submitted a statewide neutral and brand-free Enhanced 9-1-1 logo that each service provider can place on their webpage which would link directly to the Commission's webpage. The logo is shown below:

There is considerable value in consistent and uniform delivery of the important underlying E9-1-1 information to customers concerning this public safety need. Toward meeting that need, the LECs should provide the link, using the above RedSky logo, on their webpage which would link directly to the Commission's webpage and should distribute the attached revised PBX 9-1-1 Advisory brochure, including any updates, or a brochure with the same essential information, to their current and prospective business customers and other MLTS customers. Beyond that, and based on carriers' representations that they have improved their internal processes and can now better respond to customer needs, we will allow the service providers the flexibility in determining how best to deliver additional messages/information to their own customers and when it is warranted given the variety of technologies and providers.

6.2.2. Concerns for Enhanced 9-1-1 Related Charges

During the Technical Workgroup meeting, Orange County also raised an important issue and questioned AT&T California's current practice of subjecting customers to additional charges to transmit the phone station ANI of a 9-1-1 call to the 9-1-1 database on a PRI ISDN trunk -- a service AT&T California refers to as "Inform 911."[89] Some parties identified AT&T California's "Inform 911" rate as a cost impediment for large counties in provisioning a PBX MLTS Enhanced 9-1-1 solution for their employees and citizens meeting at county facilities.[90]

Attendees did not reach any conclusion on this issue as some suggested that trunking services are highly competitive, and Orange County could perhaps provision trunks from alternative providers that do not charge for that service. Others argued that that bundled rates result in lower costs for some of the elements, and this issue should be left for negotiation between customers and service providers.

With the case of Orange County, alternative providers are not available as potential options since Orange County, similar to many state and local/public government agencies, provisions trunks through CALNET2.[91] CALNET2 is a contract available to state and local/public government agencies that limits the party's ability to provision services outside of the contract.

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[89] Inform 911 for ISDN PRI as described in AT&T California Guidebook, Part 17, Section 2. Customers would be required to subscribe to PS/ALI and provision DID numbers for phone stations, as described in the Workshop Report, at 19.

[90] For example, San Bernardino County has over 200 ISDN PRI lines which would be subject to AT&T's "Inform 911" $140 monthly rate, Workshop Report at 26.

[91] https://ebiznet.sbc.com/calnetinfoii/

Following the Workgroup meeting, AT&T California's "Inform 911" service was further reviewed and that review is discussed in Section 7.3 of this decision.

6.2.3. Technical Workgroup Outcomes

Overall, the 2011 Technical Workgroup meeting was successful in identifying actions for improving customer information and awareness, and addressing the lack of public understanding and knowledge of the MLTS Enhanced 9-1-1 caller location problem. RedSky created and proposed a statewide neutral and brand-free Enhanced 9-1-1 logo for each service provider to place on their webpage to link directly to the Commission's webpage. The Technical Workgroup generated an effective framework for a proposed customer advisory brochure to increase awareness on this subject.[92] The Technical Workgroup also recommends the Commission's hosting of the proposed advisory brochure on the Commission's website. CALNENA requested that the Commission make a recommendation to the Legislature that it adopt the NENA Model Legislation Enhanced 9-1-1 for MLTS[93] and add provisions dealing with penalties for non-compliance and a mechanism for funding the compliance effort.

7. Discussion and Analysis

We have examined the record, including the recommendations of the Workshop and Technical Workgroup as well as the comments filed in this proceeding. We are cognizant of the jurisdictional reach of the Commission and

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92 *See* Appendix A to this decision.

93 *See* Appendix B to this decision.

the constantly changing technological landscape of the telecommunications industry. We are nonetheless compelled to action by the recommendations from the Workshop, Technical Workgroup and the record of this proceeding that show this critical and unmet public safety need in California.[94]

7.1. Critical and Unmet Public Safety Need

More than 15 years ago, the FCC opened its proceeding[95] to examine and address the serious call delivery problems of 9-1-1 calls originating from MLTS. Today, California's PSAPs still report serious MLTS 9-1-1 call misdirection and response unit misdirection problems throughout the state.[96]

As of February 22, 2012, Congress again elevated federal government's recognition of this unresolved public safety concern and passed the Next Generation 9-1-1 Advancement Act of 2012. In it, the Congress directed the FCC to once again revisit and examine this public safety issue and seek comment on (1) the feasibility of MLTS to provide the precise location of a 9-1-1 caller and (2) the NENA Model Legislation.

Throughout this proceeding, the PSAPs have reported their troubling and continuing experiences with:

(1) The misrouting of PBX MLTS 9-1-1 calls that then needed to be transferred to the correct PSAP;

(2) The PBX MLTS 9-1-1 call takers not being provided with the accurate caller location information and resulting experiences of the call takers having to redirect field responders to the site of the emergency losing invaluable field response time;

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[94] Workshop Report at 5, 17, and 18.

[95] FCC Docket 94-102.

[96] Workshop Report at 18.

(3) Already scarce public safety resources are being diverted and misallocated by responding to inaccurate PBX MLTS 9-1-1 caller locations; and

(4) Critical minutes are added to emergency response times with potentially tragic consequences relating to the PBX MLTS 9-1-1 call.[97]

The PSAPs' tireless contribution to this proceeding was insightful and helped the Commission understand the difficulties faced by a PSAP in identifying the actual location of a PBX MLTS 9-1-1 caller. The PSAPs presented compelling findings in the CALNENA workshop presentation that inaccurate reporting of PBX MLTS information to the PSAPs continues to be a major public safety concern that causes delayed response to emergency situations and significant public safety hazard.[98] The PSAPs stressed that in many cases, employees in the private and public sector do not even know that their location is not being accurately presented to the local 9-1-1 call taker.

Other parties offered further insights on the nature of the MLTS Enhanced 9-1-1 problem that there is a general lack of awareness of this public safety problem. Participants stated that many business owners and installers do not understand how 9-1-1 caller location delivery works, so they are unaware of the problem and available solutions.[99] Furthermore, the Communications Division staff noted that the utilities generally viewed PS/ALI and other MLTS Enhanced 9-1-1 services as a demand product, and do not appear to have proactively

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[97] *Id.* at 5.

[98] *Ibid.*

[99] *Id.* at 8.

identified Enhanced 9-1-1 issues and solutions when provisioning multi-line service.[100]

The presentations from third party vendors and the 9-1-1 Office also revealed that many individual businesses and installers have difficulty finding information on Enhanced 9-1-1 guidelines, standards and solutions for their California installations.[101] Facey Medical Foundation's letter to the Commission as a PBX MLTS owner succinctly described these difficulties. The letter identified some key elements of a potential set of E9-1-1 solutions, including (1) a legislative solution similar to some of the other states, (2) increased public outreach/communications to make it easier to find information on Enhanced 9-1-1 services, and (3) ongoing dialog and cooperative mission with telecommunications providers to help ensure that PBX MLTS customers' and end-users' needs are proactively addressed.[102]

7.2. Solutions

The Commission has jurisdiction over the regulated utilities but cannot require the utilities' customers to take specific actions associated with 9-1-1 services. Nevertheless, the Commission, utilities and other stakeholders all have roles in the overall solution, particularly in education and outreach to MLTS and E9-1-1 customers, who are an indispensable part of that solution. The public safety needs here can be met only if those ultimate decision makers, the MLTS customers and the end-users, are informed and participate in the overall solution.

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100 *Id.* at 29.

101 *Id.* at 17.

102 *Ibid*.

Recognizing those constraints to closing the public safety gap in the California's 9-1-1 emergency response system, several components of the solution are readily within the Commission's reach. Specifically, the record of this proceeding suggests there are two complementary sets of solutions we should undertake here:

(a) Raising awareness of this critical public safety need amongst the stakeholders, especially the PBX MLTS customers; and

(b) Supporting legislative efforts for California to adopt Enhanced 9-1-1 legislation such as the NENA Model Legislation[103] to mandate the MLTS customers to provision for MLTS Enhanced 9-1-1.

To those ends and in looking ahead, the Commission should take an active and ongoing part in raising awareness of this issue through, its website, its authority over the utilities, and its own efforts to support legislative activities, bodies or solutions.

In terms of raising awareness, the Commission must continue to provide leadership and continue the efforts started in this proceeding. Until now, the Commission's Communications Division has played an integral role in California on this issue by following the FCC's direction and initiating a California forum where representative stakeholders have participated in identifying issues and crafting balanced solutions. We believe such continued leadership is necessary and must continue toward effectively closing this public safety gap so that all California telecommunications customers are afforded the critical emergency access protections of Enhanced 9-1-1.

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[103] *See* Appendix B to this decision.

The Commission also must continue to provide such forum and support, as necessary, to the individuals, the MLTS owners/operators/lessees, the local carrier/service providers, other interested governmental (e.g., State of California 9-1-1 Emergency Communications Office) and non-governmental organizations working with and responsible for providing public safety, in support of raising awareness of the critical public safety Enhanced 9-1-1 need associated with the MLTS as identified in this proceeding. The momentum created in this proceeding should not be lost and the stakeholders must continue to be reminded of their respective role and in taking respective part in the solution.

Specifically, we believe California must move toward adoption of a legislative solution. Seventeen other states,[104] to date, have already adopted varying versions of E9-1-1 MLST legislation addressing this same public safety issue in their states by requiring the businesses and other MLTS customers to provide accurate caller location information. Those laws and the technical requirements set forth in the NENA Model Legislation, provide ample examples of what works and does not work for effective compliance and E9-1-1 MLTS legislative solutions. Thus, there is no reason why California could not look to those preceding legislative responses and the NENA Model Legislation, as guides, and adopt such legislative solution for the California's business MLTS customers and other MLTS customers.

Throughout this proceeding, California's PSAP organization, CALNENA, and other 9-1-1 subject matter experts have repeatedly pled for Commission and

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[104] *See* OIR, Appendix D (Alaska, Arkansas, Colorado, Connecticut, Florida, Illinois, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, Texas, Vermont, Virginia, and Washington); and in 2011, Michigan became the seventeenth state to pass E9-1-1 requirements for MLTS.

legislative action to improve the California's E9-1-1 MLTS system. We are compelled by their pleas, and we find there is a critical public safety need, which requires legislative solution. The simple goal here is to improve the public's access to E9-1-1 and close the identified public safety communication gap; in turn, we will improve public safety where we work, shop, relax, and vacation; where our kids attend school and college; where we receive government services and medical care; and where many of our disabled and elderly citizens live.

Examining other states' legislative responses to the E9-1-1 MLTS issue to date, NENA's MLTS Technical Subcommittee found that that legislative solutions must have effective enforcement provisions and that merely mandating all MLTS be provisioned for Enhanced 9-1-1 without significant enforcement provisions, does not in fact result in implementation of those E9-1-1 solutions. In those instances, the MLTS owners/operators/lessees/ customers ignored those mandates and still failed to comply with the mandates, leaving the public safety need unmet. As such, NENA's MLTS Technical Subcommittee Chairman, Mark Fletcher argues that a state law similar to the NENA Model Legislation, with strong compliance provisions, is necessary to effectively correct this problem. Otherwise, MLTS owners/operators/lessees/customers have little incentive to correct the problem and will continue to ignore this important public safety concern.

In sum, we find that, to effectively execute the complementary solutions to the public safety concerns associated with the 9-1-1 call delivery problems with certain high risk MLTS installations, the Commission and the utilities must partner to support effective E9-1-1 MLTS legislation as well as deliver effective education efforts to the public and customers such that the overall awareness is raised of this critical public safety need.

7.3. Tariff and Removal of Cost Impediments to Enhanced 9-1-1 Service

D.07-09-018 specifically provides that: "The 9-1-1 system provides the public an important public service that must be available to all phone customers and must not be detariffed."[105] This is to ensure that the Commission provides 9-1-1 and other emergency services with heightened oversight and protection as compared to other telecommunication services. Likewise, the Commission has long-held the view that improper cost impediments, to telecommunications customers or end-users, to accessing 9-1-1 and other emergency services, including E9-1-1 service, should be removed. As such, the Commission's 1990 Resolution T-14043 requires that 9-1-1 service rates are to be "as close to cost as possible."[106]

Resolution T-14043 reflects the Commission's longstanding and unwavering commitment to public safety in Code § 451 to promote "safety, health, comfort, and convenience of its patrons, employees, and the public" and recognition of the importance and need for 9-1-1 coverage for all telecommunications consumers and the public. Thus, today we reaffirm our policy that 9-1-1 and other emergency services should remain tariffed and related rates and charges should remain cost-based, as previously stated in Resolution T-14043.

Similar to the policy basis for continued tariffing of the 9-1-1 and other emergency services, Resolution T-14043 and the cost-based rate approach

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[105] D.07-09-018, FOF 34.

[106] Resolution T-14043, Request by Pacific Bell to Offer Enhanced 911 Services Under Tariff, January 9, 1990, at 4.

to 9-1-1 and other emergency services was designed with dual purposes: (1) to eliminate improper cost impediments to such critical services; and (2) to establish a framework to ensure the rates for such public safety service are minimized to encourage access to 9-1-1 services to the telecommunications customers and end users. In turn, those customers and end users, including schools, government agencies, and large businesses can effectively bear the increased telecommunication costs for public safety services, without being overburdened or otherwise discouraged from receiving such critically necessary services. Thus, under the Commission's 1990 Resolution T-14043 and as a matter of public policy in keeping with the goals of this OIR, rates for Enhanced 9-1-1 services that exceed the cost of providing those services are improper cost impediments and unacceptable.

In fact, during the Workshop and the Technical Workgroup meeting, two stakeholders – 9-1-1 ETC (as contractor to the County of San Bernardino) and Orange County -- identified AT&T California's "Inform 911" rate as a cost impediment for large counties in provisioning a PBX MLTS Enhanced 9-1-1 solution for their employees and citizens meeting at county facilities.[107] Although this issue came up during the Workgroup meeting, as discussed in section 6.2.2 of this decision, the issue was further reviewed through the comment process following the Technical Workgroup meeting.

[107] *See* supra, fn. 84.

In general, AT&T California's "Inform 911" service uses phone station ANI or CPN and transmits that information to the 9-1-1 database on a PRI ISDN trunk for an additional monthly fee/charge.[108] In contrast to AT&T California, the record shows that no other LEC provider charges fees for such similar service.

On August 3, 2011, Orange County submitted a letter to the Communications Division responding to the assertions in AT&T California's Comment filed on June 1, 2011, further elaborating on the issue. Specifically, Orange County's letter illustrated that its need for 40 separate ISDN-PRI trunks serving the various county offices (with associated documented costs, including additional monthly fees for each trunk) posed a significant fiscal challenge for Orange County.

On September 15, 2011, ALJ issued a ruling, addressing Orange County's Letter and sought comments and information on AT&T California's 9-1-1 related charges. The issue was further examined pursuant to the Joint Assigned Commissioner and ALJ Ruling, dated March 8, 2012, which ordered briefs on the related issues. Parties filed comments and briefs which informed the record and showed that utilities were generally confused, unaware or disagreed that (1) 9-1-1 service should be cost-based, (2) Enhanced 9-1-1 service is a 9-1-1 service feature, or (3) Enhanced 9-1-1 type of service should similarly be cost-based, as is 9-1-1 service.

[108] Pacific Bell Advice Letter 19615, August 7, 1998.

7.3.1. Resolution T-14043 and Resolution T-17203

The discussions during the Workshop and the Technical Workgroup meeting further revealed that very few parties knew of the Commission's 1990 Resolution T-14043 and its requirement that 9-1-1 service rates are to be "as close to cost as possible."[109] At the Workshop, Communications Division staff explained that this 1990 Resolution remains in effect and is applicable to all 9-1-1 and other emergency services offered by LECs.

Consistent with the 1990 Resolution T-14043, the Communications Division reviewed the rates and costs for ILECs resulting in tariff filings with updated cost support.[110] Also following its past practices, Communications Division made requests of AT&T California to update the cost data supporting the "Inform 911" service in AT&T California's 1998 advice letter. However, AT&T California, to date, has not updated its cost data for its "Inform 911" service, asserting that such service is competitive service and therefore should not be tariffed.

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[109] Resolution T-14043, Request by Pacific Bell to Offer Enhanced 911 Services Under Tariff, January 9, 1990, at 4.

[110] In 2010, the Communications Division conducted a review of 9-1-1 rates charged by Small LECs which revealed that the rates of two LECs were approximately 210 and 450 percent of the average rate charged for comparable services. Subsequently, Sierra Telephone filed advice letter 381, on May 28, 2010, and Frontier filed advice letter 1115, December 20, 2010 with rate reductions based on updated cost support, generating annual savings of approximately $50,000.

AT&T California takes this position, in part due to, the Commission's 2009 Resolution T-17203. In review of the Commission's record, it appears that an error took place when the Commission issued Resolution T-17203 on April, 21, 2009, which inadvertently detariffed AT&T California's Enhanced 9-1-1 service feature, called "Inform 911".

The circumstances surrounding Resolution T-17203 and AT&T California's 2009 detariffing Advice Letter 33423 explain how this inadvertent detariffing occurred. Consistent with D.07-09-018, GO 96-B provides that it does not authorize cancelling or detariffing of "Basic Service; 911 or e-911 service." [111] AT&T California's 2009 detariffing Advice Letter 33423 stated that "[p]ursuant to General Order 96-B, AT&T California attests that these services do not fall within the categories of services excluded from detariffing under Telecommunications Industry Rule 5."[112] This statement, in Advice Letter 33423, then led the Commission to believe that AT&T California was NOT proposing to detariff the excluded "911 or E911 service" which was explicitly prohibited from being detariffed under D.07-09-018 and specifically through the GO 96-B Advice Letter process.

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[111] *See* GO 96-B, Industry Rule 5.

[112] "An URF Carrier may cancel by advice letter any retail tariff currently in effect except for the following: Basic Service; 911 or e-911 service; a provision, condition, or requirement imposed by the Commission in an enforcement, complaint, or merger proceeding; a provision relating to customer direct access to or choice of an interexchange carrier; a service (such as Resale Service) not within the scope of services for which the Commission granted full pricing flexibility in Decision 06-08-030; or a provision pertaining to a Utility's obligations under state or federal law (such as California public policy surcharges or Carrier of Last Resort obligations), or the Commission's decisions or orders." GO 96-B, Industry Rule 5: Detariffed and Non-tariffed Service.

In addition, AT&T California's Advice Letter 33423, Attachment 1, identified for detariffing 94 separate services in 19 tariffs without any detailed service descriptions. One of 94 listed services was ISDN Primary Rate Interface (ISDN-PRI).[113] The Inform 911 (aka Enhanced 9-1-1 or E9-1-1 or E911) service option was not specifically identified by name in that advice letter filing. Instead, Inform 911 service was merely listed as just one of many rates found in the 99 pages of the A18 tariff.

The resulting Resolution T-17203 noticeably does not make mention of any "911 services" or "e-911 services." Instead and understandably, the Resolution T-17203's narrative reflects the issues the Commission focused its review on -- the hundreds of complaints from residential customers about AT&T California's Residential Service Agreement (RSA),[114] and the Joint Protest and Communications Division's suspension, investigation, analysis and discussion of the issues raised by the RSA.

It is also worth mentioning the timing of the Resolution T-17203. Only a few years prior to issuing that 2009 Resolution T-17203, the Commission issued D.06-03-013. In it, the Commission unequivocally announced its commitment to public safety, recognized the importance of our 9-1-1 system to public safety and extended the 9-1-1 requirements to the wireless customers, stating:

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[113] AT&T California Advice Letter 33323, Attachment 1: List of Services to Detariff, August 29, 2008. ISDN PRI was not one of the services subsequently removed from the detariffing request.

[114] Resolution T-17203 at 2.

> [T]he role of government at issue here -- the promotion of public safety -- is independent of the marketplace. Significant public safety considerations justify the extension of 9-1-1 requirements to wireless carriers.

Furthermore, the Commission thereafter issued D.07-09-018, wherein the Commission again explicitly reaffirmed its commitment to public safety and prioritized public safety. The Commission specifically excluded 9-1-1 services and determined that such services must not be detariffed:

> The 9-1-1 system provides the public an important public service that must be available to all phone customers and must not be detariffed.[115]

In view of the totality of the surrounding circumstances, including this decisional backdrop leading to Resolution T-17203 and filing of the advice letter under General Order 96-B which does not permit detariffing of E9-1-1 service by advice letter, we find that the detariffing of AT&T California's "Inform 911" was an error. Because AT&T California's "Inform 911" feature is a significant and notable public safety feature, had the Commission intended to detariff it, the Commission would have thoroughly discussed and explicitly explained why we are taking such an extraordinary action in the Resolution to detariff it. Absent such discussion reflected in any way in Resolution T-17203 or the proceeding record, we must conclude that "Inform 911" is an Enhanced 9-1-1 service that was inadvertently detariffed by the 2009 Resolution T-17203. As discussed in the section, below, that error should be promptly corrected.

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[115] D.07-09-018, FOF 34.

7.3.2. Tariffing of E9-1-1 Service Feature

We dismiss AT&T's argument and characterization that its "Inform 911" is a competitive service and a mere optional feature and therefore it should not be tariffed. Likewise, we disagree with AT&T California's assertion that its CAMA trunks, which it characterizes as essential 911 service, in the A9 tariff offer the same functionality as "Inform 911" such that "Inform 911" should be considered just an optional competitively priced feature. In fact, as discussed in Section 7.3.1 above, "Inform 911" is an E9-1-1 telephony service which was tariffed for 11 years before it was inadvertently detariffed in Resolution T-17203, and that error should be promptly corrected.

To further examine this "Inform 911" issue, the March 8, 2012 Ruling ordered parties to file briefs on the issue of whether AT&T California's "Inform 911" Service was a "911 service" or "other emergency service" under the detariffing decisions: D.07-09-018 and D.07-09-019. Upon review of the briefs, we are persuaded and agree with DRA that "Inform 911" and similar types of service features are components of Enhanced 9-1-1 service. With the advancement of the technology, the contours of the Enhanced 9-1-1 service feature should and will continue to evolve and change. Inform 911 and similar services today are essential to ensure MLTS customers and end-users receive potentially life-saving emergency services that are of same quality and speed as those provided to residential customers.

We do agree with AT&T California, in part. A service feature with only some remote relationship to 9-1-1 service should not be deemed a 9-1-1 service. However, we disagree that the "Inform 911" service feature is just a service with remote relationship to 9-1-1 service, as further evidenced by the plain language of the service description:

> Inform 911 allows the Calling Party Number of the station to be sent to the Enhanced 9-1-1 database rather than the Billed Telephone Number.[116]

The two main utilities in California that provide a service similar to Inform 911 for ISDN-PRI trunks are Verizon and AT&T California, and they both filed briefs and comments in this proceeding. Of the two, only AT&T California has indicated that it separately charges an additional monthly fee for a service that sends the CPN or ANI on a 9-1-1 call to the 9-1-1 database.

In its defense, specifically, AT&T California contends it provides two types of 9-1-1 services, each involving a different method of delivering 9-1-1 calls from a private switch: essential tariffed 9-1-1 service, such as CAMA trunking, and an alternative optional 9-1-1 service feature of detariffed products, such as ISDN-PRI Trunking "Inform 911"service feature. AT&T California argues that since its PBX customer has a tariffed 9-1-1 option, there is no need and justification to tariff the other – "Inform 911" option.

We find AT&T California's reasoning flawed because it stems from a flawed premise that its business customers have two comparable 9-1-1 service feature options, which we do not see in the record. In fact, in comparison to "Inform 911" option, CAMA is an outdated technology that is also far more costly. Orange County illustrated this point noting two significant and noteworthy differences between these two services: AT&T California's "essential" tariffed "CAMA" 9-1-1 services and "optional" detariffed "Inform 911" service features of ISDN-PRI trunks.

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[116] Transmittal letter of Pacific Bell Advice Letter 19615, August 7, 1998.

The first notable difference is the pricing or cost-effectiveness. The "essential" tariffed CAMA trunks could cost 10 times more than "Inform 911" for a business customer to install and maintain. As illustrated by Orange County, if the County were to install one CAMA trunk at each of its 40 PBX locations it would have cost taxpayers $29,789.20 for the installation and $2,963.60 every month. In contrast, the design used by the County, a single ISDN-PRI circuit or "optional" detariffed "Inform 911" service features of ISDN-PRI trunks cost far less. Installation cost for this ISDN-PRI trunk was substantially lower than CAMA at approximately $2,387 with monthly recurring costs running at only around $332.[117]

The second notable difference is the service. With the "essential" tariffed CAMA trunk type of configuration, Orange County notes only one person would be able to place an emergency call from any given County location at a time, and that if a catastrophic event, large scale emergency, or a widespread disturbance took place (e.g. earthquakes, other natural disasters, or other mass disturbance situations), multiple victims or reporting parties from the same County location would be prevented from contacting emergency services. In comparison, the "optional" detariffed "Inform 911" service features of ISDN-PRI trunks allows for up to 23 simultaneous 9-1-1 calls from either a single County location or as an aggregate total number of calls from multiple locations within the County's network.

[117] Orange County notes these amounts do not include the $142 installation, $147 database setup fee or the monthly $140 Inform 911 charges.

Based on this information and the record of this proceeding, we conclude that CAMA trunking and "essential" tariffed "CAMA" 9-1-1 services are not comparable to the "optional" detariffed "Inform 911" service features of PRI trunks. CAMA trunking is an outdated legacy technology that is unduly costly, incompatible with modern communications technology and permits only one 9-1-1 call at a time. Instead, ISDN-PRI trunking is a circuit switched digital network that supports access of any type of service (e.g., voice, data and video) over a single, integrated local loop from the customer's premises to the network edge, which is far more compatible with modern communications technology and the potential need for more than a single 9-1-1 call at a given time. Based on the foregoing, we conclude that "Inform 911" is a critical Enhanced 9-1-1 service that requires continued tariff protection, as we decided in D.07-09-018. We, therefore, find AT&T's argument, that its "Inform 911" is a competitive service and a mere optional feature that should not be tariffed, unpersuasive.

7.3.3. Recovery of Costs and Downward Pricing Flexibility

In light of the above and the record of this proceeding, we find it necessary in this decision to explicitly reaffirm our policy that 9-1-1 and other emergency services, including Enhanced 9-1-1 service such as "Inform 911", should continue to be tariffed and those services, rates and charges should be fair and reasonable and based on a cost showing to the Commission.

These rates must be cost-based and subject to the 1990 Resolution to ensure that the MLTS customers, including county governments and those similarly situated, can effectively bear the increased telecommunication costs, without being overburdened. Rates that exceed the cost of providing the service, therefore, are contrary to Commission's policy. By continuing this cost-based approach, we are removing or minimizing cost impediments to effective

9-1-1 services. In turn, we would be encouraging schools, government agencies and businesses to improve public safety access to and protections of the 9-1-1 service for their students, visitors, customers and employees, which furthers the ultimate objective of this OIR.

To that end, we affirm that the Commission will continue to rate regulate Inform 911 and other similar or comparable services[118] as tariffed 9-1-1 services. This is consistent with our policy and consistent with the goal of this OIR. This means, MLTS customers should not be charged extra to deliver more accurate caller location over their ISDN-PRI trunks to receive such critical public safety protection and that the LECs should provide 9-1-1 and other emergency services at rates as close to cost as possible. In addition, we grant LECs "downward pricing flexibility" authority such that if any of the LECs so chooses, it may file a Tier 1 advice letter and seek rates lower than those based on cost to further promote public safety.

We learned in this proceeding that a one-time, non-recurring installation cost to provision "Inform 911" is negligible based on knowledgeable industry sources, as described in the Technical Workgroup Summary.[119] In contrast, AT&T California's recurring rates and charges to California's larger counties to subscribe to its "Inform 911" are significant and could amount to several hundred thousand dollars a year, as described in the Workshop Report.[120]

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[118] As described in the ALJ's Ruling and Scoping Memo, June 16, 2010, at 2.

[119] Technical Workgroup Summary at 4.

[120] Workshop Report, at 20, shows a monthly charge of $140 per ISDN PRI circuit.

AT&T should therefore refile a tariff for the inadvertently detariffed Inform 911 service at the rate in effect at the time of inadvertent detariffing by the Resolution T-17203. AT&T is also granted "downward pricing flexibility" such that if it so chooses, it may by filing of a Tier 1 advice letter, seek rates lower than those based on cost to further promote public safety.

8. Conclusion

Based on the record of this proceeding, we are compelled and persuaded that the actions ordered in this decision must be taken to promote Enhanced 9-1-1 as an essential public safety tool and to begin closing the public safety gap in California's 9-1-1 emergency response system, identified in this proceeding.

8.1. Outreach and Education

8.1.1. LECs

The LECs should (1) distribute the customer advisory brochure (PBX 9-1-1 Advisory) attached to this decision, as Appendix A, and any applicable updates, or a brochure with the same essential information, to their current and prospective customers when those customers initiate services and/or request information on MLTS Enhanced 9-1-1; (2) distribute the PBX 9-1-1 Advisory, and any applicable updates, or a brochure with the same essential information, to existing businesses and MLTS customers; and (3) provide links on their webpages to the Commission's CalPhoneInfo website and specifically the PBX 9-1-1 Advisory, and any applicable updates.

8.1.2. The Communications Division

The Commission's Communications Division should (1) continue to work with the stakeholders and parties to this proceeding by holding periodic meetings to identify and discuss problems, issues or concerns relating to the critical public safety Enhanced 9-1-1 concern associated with the PBX and/or

other MLTS in California and present them to the Commission for consideration, when necessary, in furtherance of and as part of the Commission's ongoing leadership role in raising awareness of the critical public safety Enhanced 9-1-1 concern associated with the MLTS in California; and (2) place the PBX 9 1-1 Advisory, attached to this decision as Appendix A, on the Commission's CalPhoneInfo website, and thereafter continue to maintain and make any technical updates to the PBX 9-1-1 Advisory, on the Commission's CalPhoneInfo website, as necessary.

8.1.3. Logo

All parties in this proceeding, including the regulated carriers, should provide a web link to the Commission's CalPhoneInfo webpage and the PBX 9-1-1 Advisory, including any applicable updates, using the logo developed and proposed by RedSky:

8.2. Legislative Efforts

The Commission's Office of Governmental Affairs and the Communications Division should provide aid and otherwise further the introduction and adoption of effective legislation requiring MLTS owners/operators/lessees toward providing Enhanced 9-1-1 services with

accurate caller location information for their customers, generally consistent with the record in this proceeding and this decision, including Appendix B.[121]

8.3. Tariffing Issues

8.3.1. AT&T California

The inadvertent detariffing of the Enhanced 9-1-1 feature, in the 2009 Resolution T-17203 should be promptly corrected by AT&T California's refiling of a tariff for its "Inform 911" service, consistent with the directives in this decision.

8.3.2. LECs

Consistent with Code § 2896 to provide sufficient information to the telecommunications customers upon which to make "informed choices among telecommunications services and providers," the LECs should file and/or revise their 9-1-1 tariffs such that their current and prospective customers are fully informed of options for provisioning accurate caller location information consistent with the below language:

> It is the customer's responsibility to provide, and update if necessary, accurate ANI and ALI sub-address information to the 911 database administrator. Once the customer provides ANI and ALI sub-address information to the 911 database administrator, it is the responsibility of the Utility (or Company) to provide the location of the pilot number to the PSAP for 911 calls, and where technically and operationally feasible the Utility (or Company) will deliver ANI to the PSAP at a station level behind a Multi-line Telephone System.

[121] *See* supra, fn. 4.

9. Comments on Proposed Decision

The proposed decision of the former assigned Commissioner Timothy Alan Simon in this matter was mailed to parties in accordance with Code § 311 and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Timely comments were filed by California Cable and Telecommunications Association (CCTA), Verizon, SureWest, DRA, City and County of San Francisco, Small LECs, CALNENA, and AT&T California, and timely reply comments were filed by DRA, CCTA, and AT&T California.

In general, the majority of the comments and reply comments support the proposed decision's focus on education, outreach and legislative efforts, and suggest only minor revisions to the proposed decision. CALNENA and DRA filed two of the strongest and most vocal comments supporting the proposed decision and its conclusions.

As the comments, including replies, are largely supportive, we will not individually itemize and address those comments. Some comments note a need for and request additional time to implement some of the directives associated with the distribution of advisory brochure, and those concerns are addressed in the final decision by affording the requested 120 days. Other comments recommend some potential clarifications; those clarifications have been incorporated and addressed in this revised decision. LECs, CCTA, AT&T, and DRA recommend revisions to the sample tariffing language to clarify it, which also have been addressed in this revised decision. Additionally, a few other consistency, clarification and stylistic edits have been made since the proposed decision as well as minor corrections.

AT&T's comment and reply comment raise an important policy concern that requires clarification and are addressed in greater detail below. AT&T's comment and reply comment generally support the proposed decision's focus on education, outreach and legislative efforts and echo other parties' comments which have been addressed here. The remainder of AT&T's comment and reply comment largely stressed AT&T's objection to the proposed decision's directive to AT&T to correct the inadvertent detariffing of its Inform 911 feature, on several different grounds. Mainly, AT&T argues that the Inform 911 should not be tariffed, and if it is tariffed, the tariffed pricing should not be cost-based and instead market-based with pricing flexibility to allow the market forces to dictate its pricing.

AT&T's fundamental legal argument is premised on its position that the proposed decision erroneously "relies on the Commission's 1990 resolution (Resolution T-14043) that states that 9-1-1 service rates are to be as close to cost as possible."[122] AT&T posits that the 1990 resolution predates D.06-08-030, which "granted full pricing flexibility for all retail products and services, unless explicitly exempted,"[123] and implies that the Commission's 9-1-1 service rate policy, in the 1990 resolution, is now obsolete.

As addressed in detail in the foregoing Section 7.3.1, we are not persuaded by AT&T's argument. AT&T's argument is flawed and ignores a long line of cases specifically addressing the 9-1-1 issue that state 9-1-1 is no ordinary telecommunications service; therefore, it **must** be tariffed and treated differently as such. We note, D.06-08-030 was not a decision on 9-1-1 issues and did not

[122] AT&T's Opening Comment at 9.

[123] *Id.*

specifically address 9-1-1 issues. The only 9-1-1 service or rate reference in that decision was from parties (e.g. "While acknowledging that issues like 9-1-1 and Universal Service require special consideration, the experts advocated a deregulatory approach.[citation omitted]")[124] and the Commission did not address, discuss nor resolve any 9-1-1 related issues in that decision.

As far back as 1990, in Resolution T-14043, we noted that:

> E-911 is funded by a surcharge levied on ratepayers, is mandated by law (AB320 requires statewide implementation of E-911 by 1992) and is a monopoly service in that no other provider offers the service nor is able to offer the service…[125]

Based thereon, in Resolution T-14023, the Commission explicitly announced that 911 and E911 services fees/rates therefore should be cost-based (as close to cost as possible), not market based.

In other decisions following Resolution T-14023, the Commission also specifically examined 9-1-1 issues, and in them, carefully balanced the need for regulation to protect consumers with the need for businesses to be able to explore the market. Each time, the Commission asserted the importance and need for 9-1-1 coverage for all telecommunications consumers.

In D.06-03-013, for instance, issued only a few months prior to D.06-08-013 on which AT&T relies, the Commission unequivocally announced its commitment to public safety, recognized the importance of supporting the 9-1-1 system consistent with the commitment to public safety and extended the 9-1-1 requirements to wireless customers, stating:

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[124] D.06-08-030, at 28.

[125] Resolution T-14023 at 3 and Finding 6.

> [T]he role of government at issue here -- the promotion of public safety -- is ***independent of the marketplace***. Significant public safety considerations justify the extension of 9-1-1 requirements to wireless carriers. For some time, state and local governments have relied on 9-1-1 as the critical communications element in providing police, fire protection and emergency health service. Although the marketplace will likely drive most providers to offer 9-1-1 services, we believe that it is better to adopt these 9-1-1 requirements, rather than create a situation in which the unavailability of 9-1-1 service becomes known only in an emergency. [***emphasis added***.][126]

Again, in D.07-09-018 (Opinion Consolidating Proceedings, Clarifying Rules For Advice Letters Under The Uniform Regulatory Framework, and Adopting Procedures For Detariffing), the Commission, while deregulating the pricing of telecommunications services other than basic residential service for certain ILECs, once again confirmed the importance of such public safety service and underscored public safety service as a necessity. Accordingly, in D.07-09-018, the Commission explicitly excluded 9-1-1 services and ordered that such services must not be detariffed:[127]

> The 9-1-1 system provides the public an important public service that must be available to all phone customers and must not be detariffed.[128]

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126 D.06-03-013 at 67-68.

127 Detariffing allows a uniform regulatory framework carrier (URF Carrier) to cancel by advice letter a retail tariff currently in effect. In accordance with General Order (GO) 96-B, URF Carrier includes any ILEC that is regulated under the Commission's uniform regulatory framework (*See* D.06-08-030), competitive local exchange carriers (CLECs), and interexchange carriers.

128 D.07-09-018 at 88.

While ignoring these direct authorities, AT&T relies solely on D.06-08-030 and argues that its Inform 911 service should not be tariffed and the Commission's long standing 9-1-1 "near cost" rate policy has now become obsolete.

As we have found that "Inform 911" is an essential 9-1-1 service and an E9-1-1 service that requires continued tariff protection, detariffing of such services is not in the public interest irrespective of whether some competition may exist. Therefore, we believe it reasonable and in the public interest that AT&T again tariff its "Inform 911" product at the rate in effect at the time of inadvertent detariffing by the Resolution T-17203. AT&T is also granted "downward pricing flexibility" such that if it so chooses, it may by filing of a Tier 1 advice letter, seek rates lower than those based on cost to further promote public safety.

Likewise, other similar services, if provided by any other service providers, should be similarly tariffed, if they are being charged for such service, and those providers are similarly granted "downward pricing flexibility" such that if they so choose, they each may by filing of a Tier 1 advice letter, seek rates lower than those based on cost to further promote public safety.

In sum, we find it consistent with our policy and reasonable to require AT&T, and any other service provider, providing Inform 911 or similar services for a fee/rate to file a tariff consistent with the directives in this decision. We note, the record in this proceeding does not demonstrate any other service provider in the Commission's jurisdiction providing service similar or comparable to AT&T's Inform 911 and charging additional monthly fee for that service. The Commission's review of the reasonableness of any 9-1-1 tariff,

including Inform 911 service or other similar service, should consider any attendant cost justification.[129]

10. Assignment of Proceeding

Michael R. Peevey is the assigned Commissioner and Kimberly H. Kim is the assigned ALJ in this proceeding.

Findings of Fact

1. Currently, California's 9-1-1 emergency response system for our state's residential customers includes the critical emergency access protections of Enhanced 9-1-1 (also commonly referred to as E9-1-1 or E911) provisioning which ensures delivery of accurate caller location information to the appropriate local PSAP.

2. Business and other MLTS customers and end-users presently do not enjoy the same level of protection of Enhanced 9-1-1 with ensured delivery of accurate caller location information to the appropriate local PSAP as residential customers.

3. The Commission's vision in the OIR was to find ways to bridge this existing public safety gap and extend the critical emergency access protection of Enhanced 9-1-1 provisioning to the business and other MLTS customers and end-users in California.

4. In response to the OIR as well as to construct a meaningful record while ensuring this rulemaking considers the views and ideas of all affected stakeholders, Communications Division staff initiated an outreach effort to representative stakeholders.

[129] To the extent that a service provider does not charge for 9-1-1, Inform 9-1-1 or similar services, such provider need not provide cost justification.

5. Throughout this proceeding, the stakeholders actively participated in a Workshop as well a Technical Workgroup meeting, made presentations and submitted comments, as discussed in this decision.

6. The Commission has long been a steadfast supporter of California's 9-1-1 system and been committed to promotion of that 9-1-1 system in the sea of ever changing technological advances to provide critical public safety protection to California's telecommunications consumers.

7. In accordance with Code § 451, in decision after decision, the Commission has promoted the "safety, health, comfort, and convenience of its patrons, employees, and the public" while carefully balancing the need for regulation to protect consumers with the need for businesses to be able to explore the market. In so doing, the Commission has uniformly reaffirmed the importance and need for 9-1-1 coverage for all telecommunications consumers and the public.

8. In D.07-09-018, the Commission, while deregulating the pricing of telecommunications services other than basic residential service for certain ILEC, once again confirmed the importance and necessity of public safety services.

9. The advancement of technology allows the Enhanced 9-1-1 system to automatically deliver a calling party's callback number and calling location along with the voice call to the appropriate local PSAP.

10. The Enhanced 9-1-1 technology significantly improved the PSAPs' ability to effectively and timely deliver critical public safety and emergency response services in countless situations.

11. The Enhanced 9-1-1 technology has proven to be an essential 9-1-1 service and critical emergency response public safety tool in saving lives and providing timely emergency response where the caller is unable (due to the language barrier, disability, or other exigent circumstances of the emergency) to verbally

communicate caller's accurate location, including when the voice call is dropped, discontinued and cannot be reestablished.

12. Business, including other non-residential, lines represent about 40% of total switched access lines in California and well over 90% of those lines are multi-lines.

13. At least one party to this proceeding and manufacturer of PBX MLTS equipment estimated that potentially 70% of all PBXs are not currently provisioned to display accurate caller location information to the responding PSAP; and this estimate is also consistent with an AT&T report which showed only 350 of AT&T California's customers with PBX phone stations in 2007 had provisioned PS/ALI location information records in AT&T California's Enhanced 9-1-1 database -- compared to the 1.3 million California businesses, governmental entities and non-profits during that same time.

14. The record in this proceeding suggests that an unacceptably large number of Californian MLTS users maybe without the E9-1-1 protections afforded to residential customers, despite the recent technological and market-based advances in E9-1-1 services.

15. The record in this proceeding demonstrates that there is lack of awareness of this public safety need, and particularly with the PBX MLTS owner/operator/lessee community, it is imperative that the MLTS owners/operators/lessees be made aware of the public safety concerns associated with the MLTS and the essential role they each play in proactively and accurately provisioning the location information records in the Enhanced 9-1-1 database.

16. Currently, this public safety problem and implementation of attendant technology/solutions are left to the voluntary participation of the MLTS owners/operators/lessees.

17. California PSAPs are continuing to experience inaccurate caller location from MLTS without accurately provisioned location information records in the Enhanced 9-1-1 database.

18. It is imperative that California take steps toward a legislative intervention here and that such significant public safety solution is not left to chance by leaving it for voluntary adherence by MLTS customers.

19. Founded in 1982, NENA, a not-for-profit national organization, is widely respected and recognized as the standard-setting organization, and its members are the experts in 9-1-1 telephony, especially in the public safety and the 9-1-1 industry.

20. In this proceeding, the California Chapter of NENA, CALNENA, has appeared, presented and requested that the Commission make a recommendation to the Legislature that it adopt a legislative solution consistent with Appendix B, the NENA Technical Requirements Document on Model Legislation E9-1-1 for Multi-Line Telephone Systems (commonly referred to and referred to herein as "NENA Model Legislation"), and stressed the importance of legislative provisions dealing with penalties for non-compliance and a mechanism for funding the compliance effort.

21. NENA and APCO jointly developed the NENA Model Legislation; and in 2011, an updated version 3 of this NENA Model Legislation (Appendix B) was submitted to the Congress and also submitted to this Commission by CALNENA to offer a viable blueprint for an E9-1-1 law in California.

22. The NENA Model Legislation proposes to target the E9-1-1 legislative solution specifically to those larger businesses, while excluding the small businesses so as not to burden those smaller businesses with an overly broad E9-1-1 legislative response.

23. Since 1994, the FCC has been looking to the states to implement legislative solutions, similar to the NENA Model Legislation to address E9-1-1 MLTS issue; however, only about a third of the states since have enacted new legislation adopting E9-1-1 requirements for MLTS, bringing the current nationwide total to seventeen states with such legislation.

24. On February 22, 2012, Congress passed the Next Generation 911 Advancement Act of 2012 which recognizes that there still continues to be an outstanding public need in the emergency E9-1-1 call system and lack of effective implementation of MLTS E9-1-1 technology.

25. Code § 701 gives the Commission broad authority to regulate utilities in all respects, including with respect to consumer protection matters. At the same time, the Commission's broad authority to regulate the carriers does not extend to the California's telecommunications consumers.

26. An effective E9-1-1 solution in California will require a separate legislative action, as part of the overall solution.

27. In D.06-08-013 (Decision Adopting and Issuing Revised General Order 168), we found that:

- Consumers have a right to expect that providers of voice services utilizing numbers from the North American Numbering Plan and connecting to the Public Switched Telephone Network will offer reliable connections to E911 emergency services and Public Safety Answering Points, and to clear and complete disclosure on access

to 911 emergency services through the use of those services; and

- Consumers have a right to receive clear and complete information about any limitations affecting the services they select, including limitations on bandwidth, applications or devices that may be used in connection with their service.

28. The PSAPs repeatedly confirmed that their primary concern is that inaccurate reporting of MLTS information to the PSAPs continues to be a major public safety concern that causes delayed response to emergency situations and that, to date, this public safety concern remains outstanding.

29. The Workshop also yielded important foundational information concerning feasibility and costs to businesses and other property owners of provisioning MLTS Enhanced 9-1-1 Caller Location Information.

30. RedSky created and submitted a statewide neutral and brand-free Enhanced 9-1-1 logo that each service provider can place on their webpage which would link directly to the Commission's webpage; and that logo is shown below:

31. There is a critical public safety need, which requires legislative solution with a goal to improve the public's access to E9-1-1 and close the identified public safety communication gap.

32. Resolution T-14043 requires that 9-1-1 service rates are to be "as close to cost as possible."

33. It continues to be the Commission's policy that Enhanced 9-1-1 service rates and charges, including services such as "Inform 911", should be fair and

reasonable and based on a cost showing to the Commission, and the utilities' rates associated with Enhanced 9-1-1 service to MLTS customers must be cost-based and generally subject to Resolution T-14043.

34. An error took place when Resolution T-17203 was issued on April 21, 2009, in part, inadvertently detariffing Enhanced 9-1-1 service feature.

35. AT&T California's CAMA trunks, in the A9 tariff, do not offer the same functionality as its "Inform 911".

36. AT&T California's "Inform 911"is an Enhanced 9-1-1 telephony service which was tariffed for 11 years before it was inadvertently detariffed in Resolution T-17203.

37. The CAMA trunking and "essential" tariffed "CAMA" 9-1-1 services are not comparable to AT&T California's "Inform 911" service features of PRI trunks.

38. Those service providers that participated in this proceeding and responded indicated in their comments that they do not charge fees in their service territories for services similar to AT&T's Inform 911.

39. AT&T does charge additional monthly fee for its Inform 911 service, and the record shows that AT&T's Inform 911 service was inadvertently detariffed under Resolution T-17203 in 2009.

40. Code § 2896 requires that the utilities provide sufficient information to the telecommunications customers upon which to make "informed choices among telecommunications services and providers."

Conclusions of Law

1. A utility service that sends the CPN or ANI of the phone station on a 9-1-1 call from customer premise equipment (such as a PBX telephone system) connected to the utility's switch using the utility's provided transport facility is

a "911 service" or "other emergency service" under decisions D.07-09-019 and D.07-09-018.

2. The public safety gap in California's E9-1-1 system can be addressed with these two complementary sets of solutions:

(a) Raising awareness of this critical public safety need amongst the stakeholders, especially the PBX MLTS customers; and

(b) Supporting legislative efforts for California to adopt effective Enhanced 9-1-1 legislation such as NENA Model (Appendix B) to mandate the MLTS customers to provision for MLTS Enhanced 9-1-1.

3. The continued leadership by the Commission is necessary and should continue toward effectively closing this public safety gap so that all California telecommunications customers are afforded the critical emergency access protections of Enhanced 9-1-1.

4. The Commission also should continue to provide such forum and support, as necessary, to the individuals, the MLTS owners/operators/lessees, the local carrier/service providers, other interested governmental (e.g., State of California 9-1-1 Emergency Communications Office) and non-governmental organizations working with and responsible for providing public safety, in support of raising awareness of the critical public safety Enhanced 9-1-1 need associated with the MLTS as identified in this proceeding.

5. The Commission's continued leadership, forum and support on this issue are in the public interest and appropriate to maintain the momentum created in this proceeding.

6. It is consistent with the Commission's longstanding commitment to public safety and within its broad authority that the Commission take an active and ongoing part in raising awareness of this issue through, its website, its authority

over the utilities, and its own efforts to support legislative activities, bodies or solutions.

7. In terms of raising awareness, the Commission should employ following approach:

(a) The Commission should direct, support and encourage, where appropriate, LECs and other wireline voice service providers to participate in the effort to raise awareness by improving their business practices to proactively address the needs of their customers, establish public information on Enhanced 9-1-1 services and better facilitate customer access to existing services that provide MLTS Enhanced 9-1-1 solutions;

(b) The Commission should encourage the PS/ALI service providers and VPCs to work with California's PSAPs and update their User Guides and Training & Reference Materials to make phone station sub-location descriptions as uniform as possible. For example, NENA's website currently recommends using the abbreviations used by the United States Postal Service for sub-location information: room, floor, building, etc. Standardizing abbreviations where technically feasible will help ensure that critical sub-location information is not truncated within the twenty character field width limitations of the current 9-1-1 ALI record viewed by many California PSAPs;

(c) The Commission should direct, support and encourage, where appropriate, all service providers to review the 9-1-1 emergency telephone service language in their local access tariff, and ensure it includes language that informs customers of the option to provision more accurate 9-1-1 caller MLTS phone station information that can be sent to the PSAPs,[130] and that it is the customer's responsibility to

[130] To be accurate, some older analog PBXs cannot be programmed to transmit phone station ANI, but such devices are very rare according to Workshop participants.

provide and maintain accurate and complete phone station location information in the 9-1-1 database;[131]

(d) The Commission should direct, support and encourage, where appropriate, the service providers to either link from web pages offering PBX /Enterprise multiline and/or network services to the above proposed CalPhoneInfo webpage, or alternatively provide the link on monthly bills[132] or as an annual bill message to all business customers; and

(e) The Commission should direct, support and encourage, where appropriate, the service providers to resize, as necessary, and place on their webpage, the statewide neutral and brand-free Enhanced 9 1-1 logo created and submitted by RedSky, which would link directly to the Commission's webpage; and that logo is shown below:

[131] SureWest and the Small LECs provided an example of potentially acceptable tariff language:

> The Utility (or Company) will provide the location of the pilot number to the PSAP for 911 calls and where technically and operationally feasible the Utility (or Company) will deliver ANI to the PSAP at a station level behind a PBX. When station level ANI is provided, the customer is required to provide ALI sub-address information to the 911 database. (Comments of SureWest and the Small LECs, June 1, 2011, at 8.)

[132] As recommended in Comments of CALTEL, June 1, 2011, at 4.

8. It is consistent with the Commission's longstanding commitment to public safety and within its broad authority that the Commission look to the NENA Model Legislation, as a guide, and support adoption of a similar legislative solution for California's business and MLTS customers.

9. The Commission should support reasonable and effective legislative proposals setting forth legal requirements on the MLTS owner/operator/lessee, as well as effective enforcement mechanisms and penalties for non-compliance, consistent with those identified at the July 26-27 Workshop, such as the NENA Model Legislation (see Appendix B), with added provisions dealing with penalties for non-compliance and a mechanism for funding the compliance effort. As recommended by CALNENA, there should be a time-limited grandfathering program for existing systems.

10. The Commission should continue to rate regulate Inform 9-1-1 and other comparable services as tariffed 9-1-1 services, as a matter of public safety and consistent with goal of this OIR.

11. The rates for Enhanced 9-1-1 services that significantly exceed the cost of providing the service are contrary to Commission policy as stated in Resolution T-14043.

12. AT&T California's "Inform 911" and any other comparable and similar service are not optional services but are essential 9-1-1 services and critical Enhanced 9-1-1 services that require continued tariff protection.

13. AT&T California's "Inform 911" is Enhanced 9-1-1 service which was inadvertently detariffed by the 2009 Resolution T-17203, and that error should be promptly corrected.

14. It is reasonable and in the public interest to direct AT&T California to correct that inadvertent error, by refiling a tariff for the inadvertently detariffed "Inform 911" service at the rate in effect at the time of inadvertent detariffing by the Resolution T-17203.

15. It is reasonable and in the public interest to grant AT&T California "downward pricing flexibility" for its "Inform 911" service such that if it so chooses, it may by filing of a Tier 1 advice letter, seek rates lower than those based on cost to further promote public safety.

16. It is reasonable and in the public interest to grant any LECs that provide service similar or comparable to AT&T California "Inform 911" service the "downward pricing flexibility" for such service, so that if it so chooses, it may by filing of a Tier 1 advice letter, seek rates for such service lower than those based on cost to further promote public safety.

17. As we have found that "Inform 911" is an essential 9-1-1 service and an Enhanced 9-1-1 service that requires continued tariff protection, detariffing of such services is not in the public interest irrespective of whether some competition may exist.

18. It reasonable and in the public interest that AT&T again tariff its "Inform 911" product. Likewise other similar services, if provided by any other service providers, should be similarly tariffed, if they are being charged for such service.

19. It is consistent with our policy and reasonable to require AT&T California, and any other service provider, providing Inform 911 or similar services for fee/rate to file a tariff consistent with the directives in this decision.

20. The Commission's review of the reasonableness of any 9-1-1 tariff, including Inform 911 service or other similar service, should consider any attendant cost justification.

21. Consistent with Code § 2896 to provide sufficient information to the telecommunications customers upon which to make "informed choices among telecommunications services and providers", LECs should revise their 9-1-1 tariffs such that customers are fully informed of options for provisioning accurate caller location information consistent with the below language:

> It is the customer's responsibility to provide, and update if necessary, accurate ANI and ALI sub-address information to the 911 database administrator. Once the customer provides ANI and ALI sub-address information to the 911 database administrator, it is the responsibility of the Utility (or Company) to provide the location of the pilot number to the PSAP for 911 calls, and where technically and operationally feasible the Utility (or Company) will deliver ANI to the PSAP at a station level behind a PBX/MLTS.

O R D E R

IT IS ORDERED that:

1. Upon the effective date of this decision, the Commission's Communications Division shall (1) continue to work with the stakeholders and parties to this proceeding by holding periodic meetings to identify and discuss problems, issues or concerns relating to the critical public safety Enhanced 9-1-1 concern associated with the Multi-line Telephone System (MLTS) in California and present them to the Commission for consideration, when necessary, in furtherance of and as part of the Commission's ongoing leadership role in raising awareness of the critical public safety Enhanced 9-1-1 concern associated with the MLTS in California; and (2) place the PBX 9-1-1 Advisory, attached to this decision as Appendix A, on the Commission's CalPhoneInfo

website, and thereafter continue to maintain and make any technical updates to the PBX 9-1-1 Advisory, on the Commission's CalPhoneInfo website, as necessary.

2. Upon the effective date of this decision, the Commission's Office of Governmental Affairs and the Communications Division shall take all reasonable actions toward providing aid and otherwise furthering the introduction and adoption of effective legislation requiring Multi-line Telephone System (MLTS) owners/operators/lessees to provide Enhanced 9-1-1 services with accurate caller location information for their customers, generally consistent with the record in this proceeding and this decision, including Appendix B.

3. Within 120 days of the effective date of this decision, all local exchange carriers shall and other parties in this proceeding are strongly encouraged to: (1) distribute the customer advisory brochure (PBX 9-1-1 Advisory) attached to this decision, as Appendix A, and any applicable updates, or a brochure with the same essential information, to their current and prospective customers when those customers initiate services and/or request information on Multi-line Telephone System (MLTS) Enhanced 9-1-1; (2) distribute the PBX 9-1-1 Advisory, and any applicable updates, or a brochure with the same essential information, to existing MLTS customers; and (3) provide links on their webpages to the Commission's CalPhoneInfo website and specifically the PBX 9-1-1 Advisory, and any applicable updates.

4. Within 120 days of the effective date of this decision, all local exchange carriers shall and other parties in this proceeding are strongly encouraged to resize, as necessary, and place on their webpage, the statewide neutral and brand-free Enhanced 9 1-1 logo created and submitted by RedSky, which would link directly to the Commission's webpage; and that logo is shown below:

5. Within 120 days from the effective date of this decision, all local exchange carriers shall:

(a) include in their local access tariff language that informs customers of the option to provision more accurate 9-1-1 caller Multi-line Telephone System phone station information that can be sent to Public Safety Answering Points and that it is the customer's responsibility to provide and maintain accurate and complete phone station location information in the 9-1-1 database, generally consistent with the sample language in subsection 4(b) below; and

(b) review, revise and update their 9-1-1 tariffs such that their current and prospective customers are fully informed of options for provisioning accurate caller location information generally consistent with the below language:

> It is the customer's responsibility to provide, and update if necessary, accurate Automatic Number Identification (ANI) and Automatic Location Identification (ALI) sub-address information to the 911 database administrator. Once the customer provides ANI and ALI sub-address information to the 911 database administrator, it is the responsibility of the Utility (or Company) to provide the location of the pilot number to the PSAP for 911 calls, and where technically and operationally feasible the Utility (or Company) will deliver ANI to the PSAP at a station level behind a Multi-line Telephone System.

6. Within 90 days of the effective date of this decision, AT&T California shall refile a tariff for the inadvertently detariffed "Inform 911" service at the rate in effect at the time of inadvertent detariffing by the Resolution T-17203.

7. AT&T California and any other local exchange carriers, that provide services similar to AT&T California's Inform 911 service, are granted "downward pricing flexibility" and permission to file a Tier 1 advice letter to seek lower rates than their last tariffed rates for such services.

8. Rulemaking 10-04-011 is closed.

This order is effective today.

Dated July 11, 2013, at San Francisco, California.

MICHAEL R. PEEVEY
President
MICHEL PETER FLORIO
CATHERINE J.K. SANDOVAL
MARK J. FERRON
CARLA J. PETERMAN
Commissioners

ATTACHMENT 2

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MLTS E9-1-1 Workshop Report

In Rulemaking 10-04-011 to Improve Public Safety by Determining Methods for Implementing Enhanced 9-1-1 Services for Business Customers and for Multi-line Telephone System Users

California Public Utilities Commission

Communications Division

October 2010

Memorandum

This workshop report was prepared by Michael Aguilar, Communications Division Regulatory Analyst. The report summarizes the presentations made at the Public Workshop held at the Commission on July 26 and 27, 2010, and on the Q&A and participant discussions that followed the presentations. Some of the information in this report was provided after the workshop by utilities and other participants in response to staff inquiry, and to clarify issues raised during the workshop.

Table of Contents

Executive Summary

On July 26 and 27, 2010 the Communications Division (CD) held a public workshop on Provisioning E9-1-1 Caller Location Information for phones served by Multi-line Telephone Systems (MLTS) such as a PBX, as ordered by Rulemaking 10-04-011.

CD characterized the workshop as primarily informational in nature, and asked stakeholders to address three main subject areas:

1) Identify the public safety need for accurate caller location information on 9-1-1 calls
2) Describe how public utilities and other service providers work with business customers in implementing best practices for provisioning caller location information needed for timely emergency response
3) Identify the feasibility and cost to businesses and other property owners of provisioning caller location information needed by Public Safety Answering Points (PSAPs) and field responders

The following summarizes the major points of the workshop presentations and stakeholder comments[1].

Public Safety Need for accurate caller location

- PSAPs' primary concern is that inaccurate reporting of PBX/MLTS information to the PSAP is a major public safety concern that causes delayed response to emergency situations.

- PSAPs presented examples of representative problems with 9-1-1 calls originating from PBXs at large hospitals, public schools, large businesses, chain stores, local government installations, and assisted living facilities -- in all regions of California, within small towns and the State's largest metropolitan areas.

- PSAPs reported that the problems involved the misrouting of PBX 9-1-1 calls to the wrong PSAP, and/or the displaying of caller information to the PSAP that did not show the caller's actual location and telephone number. The lack of accurate location information results in limited public safety resources being directed to the wrong location, and can be life threatening if the caller can not supply the correct location.

- These problems occur in certain high risk MLTS installations and configurations when the PBX owner/manager does not provision accurate caller location information in the 9-1-1 database, which will result in the PSAP screen displaying the billing or main address and the phone number of the PBX trunk or network connection instead of the 9-1-1 caller's actual location and phone number.

- PSAPs identified High Risk PBX/MLTS Environments as:

[1] This executive summary and the following summary of workshop presentations may also include at times some characterizations of the participants' presentations and stakeholder comments. Parties will have the opportunity to comment on this workshop report and any characterization contained in it.

- Multiple or remote buildings and locations served by a central/host PBX with only one address and the main trunk telephone number (TN) stored in the 9-1-1 database
- Assisted living or medical facility with a phone in each living unit or patient room, but with only the main address and front desk TN provisioned in the 9-1-1 database
- Installations that do not provide on-site notification that a 9-1-1 call was made, and therefore the 24/7 attendant or security cannot assist the PSAP during call-back to the main billing number or trunk TN
- Installations with no live person attendant to answer a PSAP call-back to the main trunk TN

- PSAPs did not identify caller location problems with 9-1-1 calls from small businesses at a single location, or with calls from a Centrex customer.

- No other participant presented information or comments contrary to the PSAP findings.

Public utility tools, services and best practices for provisioning MLTS phone station information in the 9-1-1 Database

- AT&T and Verizon each offer an optional web-based PS/ALI[2] service which permits a PBX/MLTS owner/manager to provision accurate caller location information in the 9-1-1 database.
  - PS/ALI services are available to any PBX owner/manager in California including CLEC customers and customers in the service territories of the other ILECs. The customer would need to contact the dial tone provider to arrange for subscribing to PS/ALI service and the additional services that permit delivery of the 9-1-1 caller ID from the PBX phone station to the PSAP.
  - Third parties observed that AT&T's PS/ALI one-time tariff rate is very low compared to PS/ALI tariffs in other states.

- AT&T and Verizon identified customer responsibilities involving the process for establishing, submitting and updating 9-1-1 database records for PBX/MLTS end users' phone stations.
  - The PS/ALI customer is required to purchase additional services including Direct Inward Dial (DID) TNs for end user phone extensions, and in some cases, circuits for transport of the PBX phone station caller ID to the 9-1-1 network.
  - Most current PS/ALI customers utilize their existing PRI ISDN[3] circuits to deliver the 9-1-1 voice call with the associated phone station caller ID to the local switch, for routing to the PSAP. AT&T's PRI ISDN customers who wish to send the phone station caller ID with the 9-1-1 voice call are subject to additional non-recurring and recurring monthly charges[4]. Verizon does not charge its PRI ISDN customers for sending the PBX 9-1-1 phone station caller ID to the local switch.

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[2] Private Switch/Automatic Location Information (PS/ALI) as explained in detail on page 5 of the OIR.

[3] Primary Rate Interface Integrated Services Digital Network (PRI ISDN) is the equivalent of a T1 circuit at total signaling speed of 1.544 Mbps in support of 24 channels, Newton's Telecom Dictionary.

[4] Inform 911 for ISDN PRI as described in AT&T California Guidebook, Part 17, Section 2.

- Verizon plans to revise its PS/ALI tariff to streamline the process, minimize the need for customer legal review of ICB contracts, reduce total customer costs, and eliminate utility monthly billing expenses.
- Neither utility offers XML[5] formatting for customer transmittals of PS/ALI database records which can serve as a basis for programming automatic data exchange between a customer's computer system and the 9-1-1 database.[6]

- Local Exchange Carriers did not provide examples of written standard operating procedures or Best Practices policies which instruct sales and customer service personnel on how to inform and assist customers regarding MLTS E9-1-1 issues.
  - Several carriers acknowledged that their business processes in this regard need to be improved, and plan to upgrade their internal protocols and information resources to support increased concern from customers about access to emergency services and interest in E9-1-1 solutions.

Feasibility and costs to businesses and other property owners of provisioning MLTS E9-1-1 caller location information

- MLTS equipment manufacturer AVAYA and third party E9-1-1 solution providers identified several trends that have made solutions more feasible for the MLTS owner/operator:
  - For the last ten years, major equipment manufacturers have built E9-1-1 capabilities into new models and PBX upgrades. It is very rare to find a PBX in use that cannot be programmed to deliver the caller ID needed to retrieve caller location information.
  - Lower cost ISDN PRI circuits are now more common, and expensive mileage-based CAMA trunks are no longer required.
  - Third party MLTS E9-1-1 solutions are going down in cost and are available for under $5000. Small business solutions can be as low as $1250 for a one-time implementation fee and $65 to $100 per month in recurring fees.
  - The VoIP MLTS/PBX platform natively provides improved support for 9-1-1 for multi-location customers, and automated solutions can discover and update phone locations as they change which greatly reduces the administrative burden and cost to the business owner of tracking Moves/Adds/Changes (MAC) in a VoIP installation.
  - SIP Trunking is more available from Internet Telephony Service Providers (ITSP)[7] permitting the smallest enterprise VoIP PBX system to send caller ID with the 9-1-1 call.

- Third party solution providers offered several case studies of implementing MLTS E9-1-1 for California clients. Examples ranged from one time implementations at a single location on a project completed within a month, to major turnkey installations requiring high-value project

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[5] Extensible Markup Language (XML) "allows companies to automatically order from and sell to each other -- without having to have a human in between physically translating between the different systems. The vast bulk of the largest companies in the world use XML for electronic transactions with their customers or suppliers". Newton's.

[6] As described by the NENA Data Technical Committee in its recommendation for adoption of NENA Version 4 for PS/911 data exchange, NENA-06-003 "Private Switch (PS) E9-1-1 Database Standard, page 8 of 17.

[7] Session Initiation Protocol (SIP) is a VoIP signaling protocol offered by an ITSP permitting IP PBXs and traditional TDM PBXs to use lower cost IP service through a SIP adjunct device as an alternative to PRI ISDN service.

management and on-going database maintenance for clients with extensive facilities and multi-state locations.
  - Most of the case studies took place during a conversion from a traditional TDM PBX to a VoIP installation.
  - Educating the customer about MLTS E9-1-1 needs to be part of the sales process.
  - Flexibility in approach is needed since most customers don't have everything in place to implement a solution, and utilizing existing customer databases (HR, telephone station lists or phone logs) reduces the burden on the customer.
  - Many customers don't want to be bothered with maintenance, but the practice of daily maintenance needs to be emphasized. Site audits are important for developing a plan for maintenance, and establishing a reminder system that emails the customer about updates has also proven very useful.
  - Automated on-site notification to customer security or management was provisioned in large facilities, utilizing screen pop ups and SMS text messages.

- No business or private property owner association agreed to participate in the workshop despite CPUC outreach efforts. But information was presented from individual businesses and MLTS owners who were concerned about potential caller location problems and had requested assistance on E9-1-1 requirements and solutions.
  - A healthcare provider faxed a letter to the CPUC documenting its difficulties in finding MLTS E9-1-1 information, and requesting the CPUC to establish regulations, public outreach and proactive customer assistance from 'telco' providers.
  - The California 9-1-1 Office presented 13 examples of requests it has received from schools, hospitals, network engineers, consultants, counties, medical providers, equipment suppliers, insurance companies, security consultants, solution providers, and VPCs requesting information on MLTS E9-1-1 guidelines, regulations, legal requirements, or best practices.
  - California State University Fullerton provided case studies of how MLTS E9-1-1 was provisioned on three Cal State campuses utilizing PS/ALI and campus phone station location databases.

- Utilities did not offer information about the views of their MLTS/PBX customers regarding the feasibility and cost of provisioning E9-1-1 caller location information.

Participant Conclusions and Recommendations

- Identifying the 9-1-1 caller's location is a challenge involving the individual, the PBX/MLTS owner, the local carrier/service provider, other third parties, and government agencies responsible for providing public safety.

- Participants repeatedly stated that there is a lack of public understanding and knowledge of the PBX E9-1-1 caller location problem, and a public education program could help solve that problem. In addition, most businesses and MLTS installers don't understand how E9-1-1 works, how to fix it or where to find information about it.

- MLTS Owners and installers are often on their own when trying to test 9-1-1 call routings and don't know who to contact to arrange it.
  - Several parties asked CALNENA to establish statewide testing protocols to address this issue.

- The participant from the 9-1-1 Office recommended that the CPUC create a reference point on its website with guidelines, educational materials, links to other resources, and a statement of benefits to ensure that the MLTS end user has access to 9-1-1 with the accurate location provisioned and displaying at the PSAP.

- 9-1-1 County Coordinator Task Force asked whether SETNA[8] funds could be used to help subsidize PBX owner costs of provisioning E9-1-1 caller location information.

- PSAPs and other parties emphasized the need for a legal requirement on PBX/MLTS owners with penalties for non-compliance, since carriers and other service providers can not compel the provisioning of MLTS caller location:
  - AVAYA estimates that 70% of all PBXs are not provisioned to display accurate caller location information to the PSAP.
  - There are solutions in place for all technologies, and the only allowance should be for older PBXs that can not be programmed to deliver phone station caller ID which is very rare.
  - MLTS owners are often aware of these problems following the passage of a state E9-1-1 mandate, but without a penalty there is usually no compliance. In contrast, when Massachusetts passed its MLTS E9-1-1 law with penalties, business owners proactively contacted solution providers to arrange compliance.
  - In some states, the fire marshal will make some test calls to 9-1-1 during his inspection in order to determine that the correct location is being shown.[9]

- PSAPs recommend adoption of the NENA Model Legislation for MLTS E9-1-1[10] as a good template for regulations.
  - AVAYA worked on the national technical group that wrote it, and concluded that because PBX/MLTS owners were part of the effort, the model regulations should not be a burden to PBX owners.
  - Several participants agreed that the Model Legislation's 7000 sq. ft. exemption for small workplaces may be too broadly written and should be refined to more accurately reflect on-site conditions. AVAYA suggested that a fire safety inspection may offer the best approach for determining small business requirements and acceptable exemptions.

- CALTEL requested clarification of whether stakeholders would participate in the drafting of any CPUC proposal to the Legislature regarding the mandating of E9-1-1 requirements on MLTS/PBX owners. In response, the ALJ Division reviewed the issue and decided it was fine to open the legislation working group to stakeholder participation.

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[8] State Emergency Telephone Number Account -- the subscriber surcharge used to fund the 9-1-1 Network as administered by the California 9-1-1 Emergency Communications Office.

[9] The Revised Code of Washington (RCW 38.52.505) describes the role of the local fire protection officer in the implementation of Washington Administrative Code (WAC) Title 118 Chapter 118-68-050: Inspection for compliance with the adequacy of automatic location information displayed at the PSAP when 911 calls are made.

[10] NENA Technical Requirements Document on Model Legislation E9-1-1 for Multi-Line Telephone Systems, NENA 06-750, Version 2, 2009.

Formation of Technical Workgroups

In order to maintain the momentum of stakeholder interest and recommendations, on August 9 CD proposed eight technical workgroups that would address, study and report on the issues, topics and subject areas raised in the workshop. Parties were asked to review the list (shown below) and offer comments, revisions or alternative suggestions by September 3, 2010.

No party objected to the overall subject areas proposed by CD. Upon review of the comments and suggestions, staff clarified and slightly revised the scope and purpose of the workgroups, as shown below. Subject areas may be further refined as needed. Staff may meet initially with individual stakeholders to better understand technical issues and availability of relevant data, but workgroup meetings will be open and accessible to all interested parties. Parties are asked to begin planning their participation in workgroups of interest. Written statements outlining positions, suggestions and recommended solutions submitted prior to each meeting will assist staff in identifying areas of consensus and disagreement, and should result in a more effective and time-efficient effort.

CD plans to announce and schedule meetings for workgroups one through six during the last quarter on 2010 and first quarter of 2011. Stakeholders may be asked to provide a suitable meeting place, or volunteer for producing meeting minutes. Staff plans to hold at least one meeting in Sacramento and one meeting in Southern California to facilitate stakeholder participation. The Legislative workgroup will be the last workgroup to meet and will follow stakeholder review of CD's summary of the results of the first six technical workgroups, as shown in the following table.

CD's Proposed Technical Workgroups

WG	Subject Area	Proposed Purpose and Goals	Plan
1	9-1-1 database formats and data exchange processes	Review the benefits, costs and feasibility of upgrading current formats to conform to NENA version 4; Develop timetables for PSAP CPE replacement/refit and compare to the State's timetable for full implementation of NG9-1-1.	4th Qt, 2010
2	CPUC Webpage: Public Resources and Information	Develop the content of a CPUC webpage dedicated to MLTS E9-1-1 Information that identifies and addresses caller location issues, defines high risk MLTS environments, identifies solutions and links to solution providers, link to Guidelines and Best Practices for owners of PBX/MLTS/VoIP Enterprise Networks [Workgroup 6], link to Statewide Guidelines for testing 9-1-1 call routings [Workgroup 3], and links to other resources.	1st Qt, 2011
3	Testing 9-1-1 call routings	Statewide Guidelines and procedures for planning and testing 9-1-1 call routings from MLTS installations prior to going live: 1) criteria that identifies high risk MLT environments that requires coordination with county coordinators, 2) list of 9-1-1 county coordinators in each county, and 3) list of contact person in each PSAP for scheduling 9-1-1 call-routing testing.	4th Qt, 2010
4	Business Practices of Regulated Utilities and Local Service Providers related to provisioning multi-line access services	Improve the way LECs and other local service providers inform their multi-line customers about MLTS E9-1-1 issues, and facilitate customer access to services that provide solutions; Benefits of a "Standard Operating Procedure" (SOP) which provides written policy and instructions for customer service and sales support personnel; Duties of Incumbent LECs as carriers of last resort compared to CLECs and other local service providers.	1st Qt, 2011
5	Fire Safety Inspections	Outreach to State and local fire safety marshals to understand current processes, and examine the potential for expanding fire safety inspections for: 1) defining Emergency Response Location Zones, 2) testing 9-1-1 call routings from MLTS phones, and 3) enforcement, compliance and penalties for violations.	4th Qt, 2010
6	Guidelines for Businesses, Government agencies and other property owners for Ensuring E9-1-1 in PBX/MLTS and VoIP Enterprise Networks.	Guidelines and Best Practices for MLTS owners and installers for provisioning accurate caller location information for high risk MLTS environments. Information that identifies caller location issues and defines high risk MLTS environments; Identifies responsibility of each party, solutions and solution providers; Link to the CPUC Public Resources and Information webpage [Workgroup 2]; Link to Statewide Guidelines for testing 9-1-1 call routings [Workgroup 3]; Statement of exemption for small business; and Links to relevant California laws and regulations.	1st Qt, 2011
7	SETNA Reimbursement	Modifying disbursements from the State Emergency Telephone Number Account (SETNA) may require legislation; subject incorporated into WG 8.	
8	Proposal to the Legislature to address MLTS E9-1-1 issues	Evaluate the NENA Model Legislation as a template for a legislative solution to the issues/problems/recommendations identified in the other technical workgroups. Develop and recommend a plan for compliance based on experience in other states. Review the need for subsidizing PS/ALI and phone station caller ID transport costs through reimbursement from SETNA.	2nd Qt, 2011

Introduction

This rulemaking was opened to improve public safety access to emergency services from a workplace, public place, residential complex or other business location served by a multi-line telephone system (MLTS) such as a PBX. The public safety objective of the proceeding is to reduce the time needed to find an injured or distressed 9-1-1 caller, and minimize the exposure of police, fire and emergency medical responders to dangerous conditions.

Comments to the O.I.R. were filed by LECs, with D.R.A being the only non-service provider to file. It became evident that the major reason other stakeholder groups did not file comments was their unfamiliarity with the Commission's rulemaking procedures and regulatory processes. In order to ensure that the rulemaking considers the views of all the affected stakeholders, Staff initiated an outreach effort to identify and contact public safety entities, businesses, building and property owners and other representative stakeholders.

Eleven representative parties agreed to attend the workshop and make presentations. These include statewide organizations representing California's PSAPs and 9-1-1 County Coordinators, North America's largest MLTS/PBX manufacturer, nationally known third party E9-1-1 solution providers, a CLEC providing hosted VoIP service, a California State University campus, and the California 9-1-1 Emergency Communications Office. In addition, California's two 9-1-1 Network and Database Management service providers and largest ILECs -- AT&T and Verizon -- made presentations. The other ILECs in the state were also present, and participated in the workshop. This included representatives from Frontier Communications, SureWest Telephone, Sierra Telephone, and the "Small LECs".

The CPUC Business & Community Outreach Office contacted six statewide property owner and manager associations and regional business councils, but these parties declined to participate in the workshop or proceeding. However, the 9-1-1 Office provided CD with copies of emails it received from individual business owners and telecommunication installers requesting guidance, information and assistance on MLTS E9-1-1 requirements. CD contacted a few of these parties to obtain their perspective and experiences, and requested the 9-1-1 Office to quote from these email requests and address the issues raised in its workshop presentation.

The Assigned Commissioner and Administrative Law Judge's Ruling and Scoping Memo dated June 16 set the scope and schedule for the proceeding, and provided the proposed topics and agenda for the first workshop scheduled for July 26 and 27, 2010. The Agenda explicitly recognized that the workshop would be primarily informational in nature in order to give additional stakeholders and interested parties the opportunity to provide new information and input on the issues raised by the proceeding.

CD emailed a public notice on July 12 providing additional workshop details and a draft agenda identifying topics, presenters and timelines. The agenda was structured around nine subject areas or topics as shown below -- the list includes the final list of presenters.

Number	MLTS E9-1-1 Workshop Topic/Subject	Presenter(s)*
Topic 1	Background, Definitions and Starting Points	CD Staff
Topic 2	PSAP and Public Safety experiences and needs for accurate caller location and call back information from high risk MLTS configurations.	CALNENA, 9-1-1 County Coordinator Task Force (CCTF)
Topic 3	Low-risk MLTS configurations and acceptable exemptions and alternatives.	CALNENA, 9-1-1 County Coordinator Task Force (CCTF)
Topic 4	Tools and services available for provisioning caller location information for use by connecting carriers, end users and third party E9-1-1 solution providers.	California's 9-1-1 Network Operators: AT&T California, Verizon California
Topic 5	Industry best practices regarding E9-1-1 capabilities of PBXs and Enterprise VoIP systems, and typical costs to the business owner of provisioning caller location information.	MLTS equipment manufacturer: AVAYA
Topic 6	LEC business practices for informing customers ordering multi-line service of the need to provision caller location information needed by PSAPs.	AT&T California, Verizon California, Creative Interconnect Communications (CIC)
Topic 7	Solutions and alternatives available to the customer for provisioning caller location information in service territories where ILECs do not offer PS/ALI service or ISDN transmission service.	Small LECs, Surewest, Frontier
Topic 8	Case histories of provisioning caller location information for MLTS and Enterprise installations within California by Third Party E9-1-1 Solution Providers.	911 ETC, RedSky, Telecommunications Systems (TCS)
Topic 9	Perspective and feedback on the need, feasibility and cost of provisioning caller location information by businesses, government agencies and other property owners.	Facey Medical Foundation, California State University Fullerton, California 9-1-1 Emergency Communications Office

* Includes written and oral statements and subsequent email clarifications

Workshop Presentations

Prior to the workshop, CD created a webpage on the Commission's website[11] with reference materials on the proceeding, workshop and links to the presentations. Due to the highly technical subject matter, CD recommended that workshop attendees review the OIR and appendices in preparation. The following summary identifies the major points of each presentation, gist of comments during the subsequent Q&A and discussion, and supplemental information provided by email. This summary is organized by workshop subject area and presenter. The original presentations and submissions are attached to this report.

Topic 1: Background, definitions and starting points

CD Regulatory Analyst Michael Aguilar commenced the workshop with a review of the workshop meeting goals and agenda followed by background information on FCC MLTS E9-1-1 proceedings. As the workshop moved through the agenda topics, CD prefaced the introduction of topics and presenters with the additional reference material shown below.

Workshop Goals and Objectives:

1) Identify the public safety need for accurate caller location information on 9-1-1 calls
2) Describe how public utilities and other service providers work with business customers in implementing best practices for provisioning caller location information needed for timely emergency response.
3) Identify the feasibility and cost to businesses and other property owners of provisioning caller location information needed by PSAPs and field responders.

FCC MLTS E9-1-1 proceedings

- In 1994, the Federal Communications Commission sought comment on ensuring the compatibility of PBXs and other dispersed MLTS with E9-1-1 services.[12] The FCC notice described the unique characteristics of PBXs that made it difficult to identify a 9-1-1 caller's TN and location.

- In 2002, the FCC sought to refresh the record through its *E911 Scope NPRM* [13] by reiterating its previous conclusion that the delivery of accurate location information and callback number is vital for a local emergency response to be effective and is in the public interest. The FCC had found that "callback and station location information is not automatically available today from behind MLTS and from behind an IP-based private network".

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[11] http://www.cpuc.ca.gov/PUC/Telco/MLTS+E-911+Workshop.htm

[12] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 9-1-1 Emerging Calling Systems, CC Docket No. 94-102, 9 FCC Rcd. 6170 (1994)

[13] FNPRM, 17 FCC Rcd. 25576 (2002)

- In 2003, the FCC issued its Report and Order and Second Further Notice of Proposed Rulemaking[14], stating that the "FCC was concerned that the lack of effective implementation of MLTS E911 could be an unacceptable gap in the emergency call system, and could have a deleterious effect on our homeland security system." The FCC made a number of findings: it reviewed the obligations of carriers to transmit all 9-1-1 calls and "provide the trunking and interfaces capable of transferring location information received from MLTS"; it found a "variety of technologies and vendors exist currently that make E911 compliance in the MLTS context quite feasible"; and it concluded that "States are in a unique position to coordinate the disparate elements necessary for MLTS E911 implementation."

California's 9-1-1 Database Service Providers

- Pacific Bell (predecessor to AT&T California) and GTE (predecessor to Verizon California) designed, built and operate California's two separate legacy 9-1-1 networks and integrated database management systems (DMS), and wrote the 9-1-1 Service Order Requirements and Standards for connecting LECs. Accordingly, LECs are required to submit to the appropriate 9-1-1 DMS their subscriber's TN, address, class of service, and other critical information needed by PSAPs to evaluate 9-1-1 calls and direct emergency responders. Wireless, VoIP and other emerging technology service providers maintain separate database arrangements, but are required by FCC rules to route 9-1-1 calls to the legacy 9-1-1 network for delivery to the PSAP.

- E9-1-1 service is available throughout California, there are about 26 Million 9-1-1 records in the combined databases and 25 Million 9-1-1 calls were delivered in 2008. The State of California makes annual payments of $40Million for Database services and an additional $15Million provisioning the Wireline 9-1-1 Network[15].

- AT&T and Verizon are active on the national level and serve on NENA technical committees that have adopted new database formats. Newer formats such as NENA 4 allow for additional and expanded information about a 9-1-1 call from a PBX/MLTS provisioned with PS/ALI database information. NENA4 also utilizes XML formatting that may potentially reduce costs to PS/ALI customers/businesses and E9-1-1 service providers by permitting current industry standard automated data exchange processes, as described by NENA.[16]

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[14] 18 FCC Rcd 25340 (2003)

[15] 64 percent of the 9-1-1 calls in 2008 were wireless and their subscriber records are not in the database. Annual payments are based on average SETNA disbursements as shown in the California 9-1-1 Strategic Plan 2009.

[16] 'The NENA Data Technical Committee has established 4 standard data exchange formats for use by Service Providers and Data Base Management System Providers when exchanging E9-1-1 data base information. All 9-1-1 data exchange formats utilize ASCII characters. The NENA Data Technical Committee recommends the use of the most current format for data exchange, NENA Version 4 for PS/911 data exchange since this version provides identification of the Telephone Service Provider (Dialtone) and the source of the Automatic Location Identification or ALI record. Version 4 format is intended to bring the data exchange process in line with current technology, processing tools and methods utilizing XML, a "Tag Data" approach to information exchange. XML will allow for growth, flexibility, and use of industry standard programming techniques', NENA-06-003 "Private Switch (PS) E9-1-1 Database Standard", page 8.

Types of Multi-line Telephone Systems

- Hosted Service is a MLTS owned, operated and managed by a regulated carrier or other service provider. Most if not all ILECs offer a CENTREX type hosted service housed at a local switch.

- Premise based MLTS/PBXs are owned by a business, government entity or non-profit organization, and generally fall into three main types:
  - Traditional or TDM PBXs typically carry only voice calls and utilize a circuit-switched, multi-line transmission service such as PBX Trunk, T1 line or ISDN/PRI service for access to the PSTN.
  - VoIP/Enterprise PBXs digitize and transmit voice calls in data packets, and can utilize an Internet Protocol (IP), DSL or broadband connection provided by an ITSP, VoIP Service Provider (VSP), CLEC or LEC affiliate.
  - Hybrid PBXs transmit both voice and data and can utilize either circuit-switched digital service (ISDN PRI) or an IP/broadband connection, depending on the PBX adjunct device.

Fixed/Nomadic VoIP LAN and WAN PBX Networks

- End user phones are connected to VoIP/Enterprise and hybrid PBXs through a local area network (LAN) or wide are network (WAN). In these configurations, LANs typically are privately owned networks on the customer premises while WANs are generally public networks serving metropolitan or extended service areas. WANs can be used to connect remote offices to the central PBX host.

- It is important to note that the Interconnected VoIP service offered by the public utility or other telephony provider in these cases is a fixed VoIP service provisioned to the demarcation point where the utility transmission service connects with the host PBX. However, within the customer's network the VoIP service may be nomadic which permits end users to move their phone device to any available port or jack, connect to the LAN and get dial tone.

MLTS Equipment E9-1-1 Capabilities

- The Telecommunications Industry Association (TIA) addressed the "E9-1-1 call misdirection and response unit misdirection problems" of PBXs in a series of published standards beginning with the '1995 TIA/EIA-689 Standard: PBX and KTS Support of E9-1-1 Service'.
  - 'This standard is intended to guide the design of new MLTS equipment to help assure that 9-1-1 callers from phones connected to that equipment receive the full benefits of E9-1-1 calling.'
  - The standard specifically addressed dialing, routing, attendant notification, network interfaces, DID and non-DID database information, and installation instructions.

- In 2003, TIA issued the "Revised TIA-689A 'Telecommunications Multiline Terminal Systems: PBX and KTS Support of E9-1-1 Emergency Calling Service'".
  - 'The standard may be used in the design of MLTS that are installed in many businesses, hotels or campus environments. … helps emergency responders to determine the location of 911 calls connected to MLTS, as occurs with fixed single-line telephones that are typically found in a residence.'

PBX Owners are looking for guidelines and standards

- The California 9-1-1 Office provided CD with copies of representative emails it has received from PBX owners, installers and other service providers which revealed that many businesses and public agencies wish to provision accurate E9-1-1 caller location information, but experience difficulties getting information from service providers or locating resources on best practices.

- As a result of CD outreach, a health care provider was willing to provide written comments[17] on the issue as summarized below:
  - 'Facey Medical Foundation is a non-profit, multi-specialty, multi-site healthcare provider group with 150 physicians providing healthcare services to over 150000 residents of Los Angeles County.'
  - 'While implementing E-911 services with our PSTN providers to minimize the risk of an ambulance arriving at a location 10 miles from the emergency, I did a bit of research and found many states are now requiring that the correct location information gets sent to 911 call centers, sometimes even going down to the suite level.'
  - 'I would think that as [VoIP] technology becomes widespread that it would be beneficial for the public safety if CPUC were to establish the following: A) Similar regulations to other states requiring accurate station level location identification be sent to 911 systems; B) Public outreach communications such that information on e-911 services was easy to find; C) A working dialogue and cooperative mission with Telco providers that would help ensure that the telco providers customers needs are proactively addressed.'

Topic 2: PSAP and Public Safety experiences and needs for accurate caller location and call back information from high risk MLTS configurations

CALNENA and CCTF

CALNENA, the California chapter of the National Emergency Number Association (NENA) and the 9-1-1 County Coordinator Task Force (CCTF) presented on behalf of PSAPs and 9-1-1 County Coordinators. Lisa Hoffman, Deputy Director of the San Francisco Department of Emergency Management was the main speaker for CALNENA, and Ella Sotelo, 9-1-1 County Coordinator Los Angeles, represented the CCTF.

- CALNENA's membership includes staff from over 500 PSAPs, and commercial vendors providing 9-1-1 PSAP equipment and services. It also has two appointed members on the State 9-1-1 Advisory Board. The CCTF trains and mentors 9-1-1 county coordinators and serves on the OCIO Emerging Technologies Workgroup.

- Calls from a multi-line telephone system typically refer first responders to a billing address, and while technology is available for more specific location information, it is not widely used. This causes response delays and resource response to incorrect locations.

[17] The Facey Medical Foundation written comments are attached to the workshop report.

- PSAPs reported serious problems with 9-1-1 calls originating from PBXs at large hospitals, public schools, large businesses, chain stores, local government installations, and assisted living facilities -- in all areas of California in both small towns and metropolitan areas.

- Representative serious problems were that 9-1-1 calls were misrouted to the wrong PSAP and/or the caller ID displayed to the PSAP was not the TN of the caller. Should the call be disconnected prematurely, the PSAP has no call back ability if needed. These problems lead to dispatching limited public safety resources to the wrong location and considerable disruption of the business' operations as field responders attempt to locate the caller.

- 9-1-1 call takers rely on the class of service (COS) information shown in the 9-1-1 database record. When PBX is shown as the COS, it leads the call taker to the logical conclusion that there may be an issue with the displayed address. In order to insure responders are correctly dispatched, the call taker drills down to the location field and asks further questions about the caller's location. Even when asked, some callers may not know or accurately describe their location in an extensive campus facility, or cannot verbally communicate it.

High Risk MLTS Environments

- PSAPs identified High Risk MLTS Environments and problems as:
  - Multiple or remote buildings and locations served by a central/host PBX with only one address and call-back number in the 9-1-1 database
  - Assisted living or a medical facility with a phone in each living unit or patient room, but with only the main address and front desk TN provisioned in the 9-1-1 database
  - No on-site notification that a 9-1-1 call was made, and therefore the 24/7 attendant or security cannot assist the PSAP during call-back to the main billing number
  - No live person attendant to answer a PSAP call-back to the main billing number
  - No testing of 9-1-1 call routing from a multiple location installation prior to implementation, resulting in misrouted calls and delayed emergency response
  - No public safety authority to require a PBX owner to provision E9-1-1 caller location information.

- No participant presented information or offered comments contrary to these findings.

Topic 3: Low-risk MLTS configurations and acceptable exemptions and alternatives

NENA Model Legislation on MLTS E9-1-1

- PSAPs stress that mandating E9-1-1 for MLTS is essential because in many cases, employees in the private and public sector do not even know that their location is not being accurately presented to the local 9-1-1 call taker. There are many examples where callers who were unable to speak or communicate, but were saved because of E9-1-1 capability.

- PSAPs recommend adoption of the NENA Model Legislation on MLTS E9-1-1 to address and correct MLTS E9-1-1 caller location problems from businesses, large facilities and shared tenant service providers.

- PSAPs pointed out that cell phones should not be viewed as offering a comprehensive alternative solution because 9-1-1 wireless location technology can not identify the floor location of a caller in a multi-story building, it can be distorted in high density neighborhoods and signals are often not received within earthquake hardened buildings.

- PSAPs did not identify problems with 9-1-1 calls from small businesses at a single location or from a Centrex customer.

- The NENA Model Legislation identified the following acceptable exemptions which may be viewed as a proxy for low risk MLTS environments :
  - A contiguous location on one floor of less than 7000 square feet
  - Key Telephone Systems (since they serve a small number of phone extensions)
  - On premise interception authorized by law and supported by training

Topic 4: Tools and services available for provisioning caller location information for use by connecting carriers, end users and third party E9-1-1 solution providers

California's 9-1-1 Network Service Providers

AT&T California and Verizon California offer tariffed PS/ALI service which provides access to the 9-1-1 database and permits PBX owners/managers to provision end-users' phone station locations through a web-based interface for transmitting caller location data records.

- **AT&T's** 9-1-1 Area Manager Paul-David de la Rosby explained that the ANI (caller's number) needed to route the 9-1-1 call, and ALI (the caller's location displayed to the PSAP) can be the responsibility of different providers depending on the provisioning and technology. For example, a Centrex caller's TN and address is created through the carrier's service order process and will show on the PSAP's display. Wireless and VoIP subscriber information is not maintained in the 9-1-1 database, but is linked to the database through the use of 'shell records' established by those carriers.
  - For PBX customers who do not subscribe to PS/ALI service, the main address and main telephone number of the customer would be displayed to the PSAP, not the caller's phone station information.
  - AT&T's PS/ALI service is offered at a one-time tariff rate of $147.24. Several attendees commented that AT&T's tariff rate is very low compared to PS/ALI tariff rates in other states.
  - For PS/ALI subscribers, there are no record storage charges since AT&T gets compensated by the State for maintaining the 9-1-1 database.
  - PS/ALI subscribers incur other costs including the purchasing of DID telephone numbers for PBX extensions, and the provisioning of circuits to deliver the DID ANI to the 9-1-1 network. PS/ALI customers also face resource costs associated with hiring a vendor or employee to maintain the PS/ALI database information.
  - AT&T customers provisioned with PRI ISDN service are subject to additional 'PRI Inform 911' charges to pass the ANI (Caller ID) for DID stations. Current published 'PRI

Inform 911' rates consist of a non-recurring charge (NRC) of $142.49, and monthly recurring charges of $140.00 for each PRI ISDN trunk.[18]
    - AT&T recently introduced a user friendly "Web Gateway" that supports NENA data file format version 2.1 and 3.0, but reported that all its customers use version 2.1
    - AT&T does not currently support XML file transfers of station information to the 9-1-1 database.

- **Verizon's** Regulatory Specialist Lorraine Kocen explained that it currently provisions PS/ALI as a contract service at a flat $2500 for a five year term, but plans to revise and reduce its tariff to reflect how it provisions its services[19]. This change will streamline the process and minimize the need for customer legal review of ICB contracts which might deter customers from subscribing.
    - '911IM' is Verizon's customer web-based PS/ALI interface and can be used with all service platforms.
    - Verizon described customer responsibilities and the process for establishing, submitting and updating PS/ALI 9-1-1 database records for PBX/MLTS end users' phone stations.
    - Verizon does not charge extra for ISDN PRI connectivity to PSAPs for station number identification.

- The utilities reported that most PS/ALI customers utilize their existing PRI ISDN digital transmission service to deliver 9-1-1 calls to the central office without the need for dedicated circuits. MLTS owners who do not utilize digital multi-line transmission service would need to order CAMA analog trunks which go from the PBX to the selective router. The CAMA trunks are more expensive than PRI ISDN service due to the higher non-recurring charges plus mileage based monthly trunk rates.
    - Several circuit or trunk types can be used with PS/ALI service including Supertrunks.

- PS/ALI service is available to any MLTS/PBX owner/manager in California including CLEC customers and customers in the service territories of the state's other ILECs. AT&T and Verizon explained that a customer would need to contact his or her local service provider to arrange the appropriate services that permit delivery of PBX phone station caller ID and location information to the PSAP.

Topic 5: Industry best practices regarding E9-1-1 capabilities of PBXs and Enterprise VoIP systems, and typical costs to the business owner of provisioning caller location information

AVAYA

Mark Fletcher, AVAYA's Product Manager for Emergency Service and Chairperson of NENA's MLTS Technical Subcommittee, provided a review of the main causes of E9-1-1 failures in MLTS,

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[18] PRI Inform 911 monthly rates were raised from $118.74 on July 2, 2010, AT&T California Guidebook, Part 17 - ISDN Services, Section 2 ISDN PRI, Second Revised Sheet 29.

[19] Verizon Advice Letter 12530 was filed with an effective date of 10/14/2010, following introduction of Verizon's Information Manager and the development of Verizon's internal software application.

technology advances, incorrect perceived roadblocks, and E9-1-1 capabilities and costs. AVAYA manufactures the NORTEL switches used by telecommunication utilities, and enterprise MLTS/PBXs used by businesses and government entities.

- 70% of PBXs are not E9-1-1 compliant. The main causes are a lack of public understanding and knowledge of the PBX caller location problem, and a lack of compliance with laws that may exist. Public education could solve the bulk of the problem, and legislation should consider fines and penalties in a compliance plan.
    - Provisioning accurate caller location can shave five minutes off field responder response times

- Industry trends have made MLTS E9-1-1 solutions more feasible:
    - PRI circuits are now more common and expensive CAMA trunks are no longer required
    - SIP Trunking is more available permitting the smallest enterprise VoIP system to send the caller ID needed to retrieve the phone station information
    - Third party MLTS E9-1-1 solutions are available for under $5000
    - MLTS upgrades include built-in 9-1-1 capabilities
    - The same technology found in PSAP equipment is built into PBXs to provide caller ID and on-site notification
    - PS/ALI service is very affordable in California
    - End users were part of the group that developed the NENA Model Legislation so that it doesn't represent a burden

- Costs are fairly static with the major cost being managing and maintaining the database of phone station locations. Emergency Response Locations Zone (ERLZ) solutions[20] offer an affordable solution. In a new building, the IT data group can implement zones fairly easily, but it is more difficult to implement in older facilities where there may be a need to reengineer the data network.
    - Fire alarm zones can provide a good start for identifying ERLZs since they have already been evaluated for HAZMAT, user density, location of machinery, exit routes, and other on-site conditions.
    - The only allowance should be for old PBXs that cannot deliver caller ID (ANI). However, this is very rare and AVAYA/Nortel has been building E9-1-1 capabilities into its PBXs for the last ten years.

Topic 6: LEC business practices for informing customers ordering multi-line service of the need to provision caller location information needed by PSAPs.

LEC presentations and statements on this topic differed significantly in approach and detail.

- **AT&T** Senior Sales Manager Thomas Perry explained that sales and/or provisioning teams may discuss disaster recovery plans with a customer which may include review of 9-1-1 emergency processes. For customers requesting help on E9-1-1 services, AT&T will assign its 9-1-1 Data Integrity Unit "design team" to assist.

[20] See the OIR Appendix B for a more detailed description of Emergency Response Location Zones.

- **Verizon** Product Manager Nick Sannelli described increased customer concern about workplace safety, and that more customers were interested in this issue. PBX owners are not knowledgeable about 9-1-1 and have approached Verizon about this issue even when it wasn't the 9-1-1 service provider. Verizon admitted that there have been stumbling blocks and problems in identifying who internally to talk to. It is developing a PS/ALI customer service informational package to assist and make it easy for the customer, and it views third party solution providers as welcome additions to the process.

Creative Interconnect Communications (CIC)

CIC is a California CLEC offering hosted VoIP service and installations, and is in the process of a complete transformation from being a traditional circuit switched TDM service provider. CIC President Bill Wilde offered his experience in converting TDM PBX customers to hosted VoIP MLTS service.

- Most of its traditional TDM customers with more than one site were not interested in accurate E9-1-1 location data for remote sites even when "educated" by CIC. Many older PBXs did not support sending the ANI on a 9-1-1 call, and customers did not want the expense of a major PBX upgrade or replacement.

- The VoIP platform natively provides improved support for 9-1-1 for multi-location customers, and customer education is part of the sale and provisioning process. CIC's Hosted VoIP service updates the 9-1-1 database for each handset when there is more than one building or floor, based on information from the customer.

- Customers face many obstacles including financial and the lack of information, and there is a need for guidelines for the testing process (of 9-1-1 call routings).

- None of the decisions required to resolve the issues are under the control of the carrier.

Topic 7: Solutions and alternatives available to the customer for provisioning caller location information in service territories where ILECs do not offer PS/ALI service or ISDN transmission service

- AT&T and Verizon reiterated that PS/ALI service is available throughout California and can be ordered through the local service provider.

- **Surewest** Executive Director of External Relations Greg Gierczak stated that at service initiation when there is a customer with two locations, Surewest can provision two different billing addresses if the customer desires.

- **The Small LECs'** attorney Patrick Rosvall stated that the 'Small LECs' have very few MLTS installations in their service territories -- the few MLTS customers in their territories are mostly schools and hospitals. The Small LECs have observed that there is little demand from customers for PS/ALI service, as they are not aware of any requests for such a service from their few MLTS customers. The small LECs are concerned that the business community was

not represented at the workshop, and that the burden for addressing the problem should not be placed solely on the utilities.

- **Frontier** Regulatory Manager Charles Born subsequently provided a copy of an email from its enterprise account sales representative that identified four steps for a customer to establish multiline E9-1-1. Two of these steps included Frontier contacting NENA to get a NENA ID for its customer, and putting the customer in touch with AT&T for subscribing to PS/ALI service.

Topic 8: Case histories of provisioning caller location information for MLTS and Enterprise installations within California by Third Party E9-1-1 Solution Providers

Telecommunication Systems (TCS)

TCS is a nationwide network operator that provides back-office call delivery services for wireless operators, cable MSOs (operator of multiple cable television franchises) and VoIP Service Providers (VSP). According to its website, TCS currently delivers half of all wireless 9-1-1 and VoIP 9-1-1 calls in the United States. TCS operates as a VoIP Positioning Center (VPC) for VoIP calls providing applications and database services to its VSP clients. CD asked TCS Sr. Product Manager Firdaus Aryana to provide information on two subjects: 1) best practices on tracking and updating MLTS phone locations, and 2) attaining, matching and validating call location data for VoIP phone subscribers.

- TCS provided a brief explanation of MLTS PBX technology that revealed that PBXs are programmed to use voice resources in the most optimal manner possible by utilizing available circuits when delivering calls to the PSTN. As a result, many end-users do not realize that a 9-1-1 call from a PBX will not deliver the caller's actual location to the PSAP as occurs with 9-1-1 calls from a traditional residential landline or typical cell phone, unless the PBX owner takes proactive steps. Many PBXs owners are unaware of the issue, and if they are, have little incentive to correct the problem.

- VoIP 9-1-1 call routing is similar to wireless 9-1-1 call routing because there is no record in the traditional 9-1-1 database for the end-user's TN. VSPs use the services of a VPC to route 9-1-1 calls to the correct PSAP. VSPs establish pseudo or shell records in the 9-1-1 database that steer the PSAP ALI data query to the VPC database that has the 9-1-1 caller's call back number and location information. Instead of submitting records to the 9-1-1 Database, the VSP customer or the end user registers and updates the caller location information in the VPC database.

- In a VoIP Enterprise network, end-users have the ability to move phones freely and get dial tone at any available network access node. TCS identified the Location Information Server (LIS) as a best practice implementation that provides solutions for nomadic VoIP caller location problems since the LIS gives enterprises the ability to automate the collection, validation, storage and management of employee telephone location information.

- The LIS automates the matching of the end user's location to the local MSAG[21] to assure the VSP has a validated location for its customer in the event the end user makes a 9-1-1 call. The LIS solution permits the end-user to update his location without the intervention of the enterprise's telecom manager or staff, thus reducing the administrative burden on the business or property owner.

RedSky

RedSky is a nationally recognized advocate for and provider of third party MLTS E9-1-1 solutions. Based on its presentation, RedSky serves over 300 enterprises and government agencies and tracks over one million phones nationally. Nicholas Maier, SVP Marketing and Channels, provided an overview of its services, and presented two case studies of major installations for California enterprise clients.

- There is a wide range of MLTS E9-1-1 solutions from low-cost, do it yourself LEC subscriptions, to high value third party installations and services utilizing highly automated systems that provide sophisticated phone tracking and notification. MLTS E9-1-1 provides the benefit of reducing an enterprise risk profile, and many enterprises have adopted E9-1-1 without legislation. 16 states have implemented E9-1-1 regulations and the NENA model legislation is a great blueprint.

- RedSky identified four steps that MLTS owners/operators can take to solve the caller location problems faced by PSAPs:
  1. buy DIDs (direct inward dialing) TNs
  2. open a PS/ALI account for access to the E9-1-1 database
  3. load ALI records for the DIDs in the E9-1-1 database
  4. program the PBX to send out the DID when the 9-1-1 call is made

- RedSky described two basic approaches to implementing E9-1-1 solutions that are low cost with a one-time service initiation fee:
  1. The MLTS owner can open a PS/ALI account with the LEC and manage the E9-1-1 implementation and maintenance
  2. The MLTS owner can subscribe to a third party solution provider's hosted service (such as RedSky's *E911 Anywhere* service) and program the PBX to send all 9-1-1 calls to it. This option does not require the owner to open a PS/ALI account.

- RedSky's first case study involved the California State Automobile Association which was implementing a new VoIP phone system serving multiple sites in California and Arizona. CSAA opened a PS/ALI account, and RedSky installed its E9-1-1 software application with the following features:
  - Established a unique location for each floor in each building
  - Automatically records IP phones moves
  - The PBX out sends the correct location (ELIN) to the PSAP
  - Emergency responders are directed to the right building and floor

[21] Master Street and Address Guide (MSAG) is a table administered by the 9-1-1 County Coordinator that assigns a routing code to each address range for routing 9-1-1 calls to the PSAP with jurisdiction for the caller's location.

    - Internal CSAA emergency responders are notified of a 9-1-1 call

- The second case study involved Fox Studios where the challenge involved the moving of phones around different sets in the studio. The RedSky solution integrated its E9-1-1 Manager software with the Studio's PBX which requires end users to log the new location of each phone to get dial tone. The result is:
    - Fox changes the location of each phone in only one place -- the PBX
    - RedSky's software 'reads the data four times daily and updates ALI records using a PS/ALI account
    - The PBX sends out the TN of the phone to the PSAP and field responders are directed to the right set location
    - On-site notification of a 9-1-1 call is provided by SMS or screen pop

- RedSky's website provides information resources on software and hardware E9-1-1 solutions, case histories of installations from small businesses to multi-state enterprise solutions, liability risk assessments, customer budgeting guidelines, and other background materials helpful to the business owner's evaluation and consideration.

911 ETC

911 ETC is a national professional services company that provides E9-1-1 solutions to owners of PBX and VoIP networks through its "Software as a Service" (SaaS) product. 911 ETC Operations Manager Theresa Stockton and Regional Sales Manager Kevin Kito offered four California case studies to demonstrate the wide range of client PBX network configurations, requirements and approaches to MLTS E9-1-1 implementation.

- 911 ETC can manage the project from start to finish -- performs the on-site phone location audits, recommends software and hardware solutions, does the implementation, and provides hosted database management for ongoing maintenance. It establishes and populates the PS/ALI accounts in each region, and provides the customer interface / loader application used to automate the translation of customer database information to the required NENA data file formats. It can also provide adjunct hardware attached to the PBX which can provide on-site notification through screen pop ups or SMS text messages.

- **CalOptima** is a county organized health insurer in Orange County, and is a CLEC customer with a single address with multiple floors. The insurer installed new PBX technology, and 911 ETC implemented the E9-1-1 solution in two weeks, using existing phone station records to assign DID numbers to phone stations on each floor.

- **City of West Sacramento** had 34 unique building addresses, and 911 ETC implemented an on-going plan for database maintenance utilizing a comma delineated employee database file. The city emails the file daily to 911 ETC where it is processed to capture changes and update PS/ALI accounts.

- **Qualcomm** had 42 unique addresses and multiple dial tone providers which required establishing different NENA IDs for each dial tone provider. The 911 ETC implementation auto assigns DID numbers to non-DID numbers, and utilizes the existing call accounting system for database updates. 911 ETC translates the call accounting codes into valid MSAG addresses for the updates.

- **The County of San Bernardino** was presented as an example of an on-going progressive implementation of a huge installation involving multiple LEC territories. 911 ETC emphasized that the customer doesn't need to have everything exactly ready to get started, and the County's first step was to audit its phone system. A single scheduled data feed of a comma delimited file of coded telephone location information is sent daily from the County to 911 ETC where changes from previous files are identified and coded telephone information is translated to pre-validated MSAG information.

- 911 ETC identified a significant cost issue with AT&T's 'PRI Inform 911' monthly charge of $140.00 per ISDN PRI circuit since San Bernardino County has over 200 ISDN PRI lines and Verizon does not charge the County for ISDN PRI pass through of the PBX 9-1-1 caller ID. 911 ETC subsequently revealed that Orange County faced a similar cost issue on the ISDN PRI trunks serving its 42 buildings. Staff contacted Orange County and learned that it reconfigured its network of PBXs to channel all 9-1-1 calls through a single ISDN PRI trunk in order to avoid AT&T's monthly 'PRI Inform 911' charges on each trunk.

Topic 9: Perspective and feedback on the need, feasibility and cost of provisioning caller location information by businesses, government agencies and other property owners

California State University Fullerton (CSUF)

CSUF University Police dispatcher Brian Barnes' presentation offered two perspectives on the issue: MLTS on a college campus and PBXs in the community.

- The first perspective described how three college campuses with on-site university police PSAPs handle landline 9-1-1 calls:
  - Cal State Fullerton: every campus phone is a DID phone line and campus Telephone Services subscribes to AT&T's PS/ALI service to update the 9-1-1 database anytime a phone location moves.
  - Cal State Long Beach: because of the mixture of DID and non-DID phone numbers, 9-1-1 calls are routed by the campus PBX to the university police without going to the PSTN. The university police queries a campus telephone database to determine the location of the 9-1-1 call.
  - Cal Poly Pomona: When someone dials 9-1-1, they are routed by the campus PBX to the university police without going to the PSTN. The location is provided by the caller ID information stored in the PBX. If someone dials 8 to get an outside line and then 9-1-1, the call goes to the 9-1-1 PSTN network and back to university police with just the campus main number and location information, requiring the dispatcher to question the caller for their correct location.

- The second perspective offered the experiences of Southern California Dispatchers Association members dealing with problem 9-1-1 calls from non-university PBXs:
  - Fountain Valley Police Department is concerned with 'what if' problems at schools and hospitals where the ALI shows only the primary address.

- Fullerton Police Department experienced problems identifying caller locations from a private university, hospital and hotel where calls are routed through the main PBX and shows only the main number and address.
- Huntington Beach Police Department reported a problem with a 9-1-1 caller requiring medical aid from a county facility that recently changed its phone system. The caller was calling from a facility in another city served by a single main PBX which delayed emergency response.
- Placentia Police Department reported problems with a bank routing all 9-1-1 calls through a main PBX, with calls from outside the city being routed to its PSAP.

California 9-1-1 Emergency Communications Office (9-1-1 Office)

9-1-1 Office VoIP Deployment Coordinator Donna Pena presented information on 9-1-1 issues involving VoIP PBXs, based on its experience and role as the primary California contact to coordinate the deployment of VoIP E9-1-1 by VoIP Service Providers (VSP). CD asked the 9-1-1 Office to share information on the requests it gets from the public for information on MLTS E9-1-1 requirements, and on its work developing best practices through the FCC Communications Security, Reliability and Interoperability Council (CSRIC).

- VSPs typically work with a database provider known as a Voice Positioning Center (VPC), and have access to the 9-1-1 network via a CLEC acting as an Emergency Services Gateway (ESGW). VPCs are used to store and update registered user location information, and then provide the information to PSAPs when a 9-1-1 VoIP call is made.

- The 9-1-1 Office presented 13 examples of requests from schools, hospitals, network engineers, consultants, counties, medical providers, equipment suppliers, insurance companies, security consultants, solution providers, and VPCs requesting MLTS E9-1-1 guidelines, best practices, legal requirements, or regulations requiring accurate caller location. Its general response to these requests was that:
  - California has no MLTS E9-1-1 legislation,
  - it's up to the business/entity to determine their scope of requirements/liability,
  - there is a need to accurately provision the address and locations, and
  - its important to perform acceptance testing prior to sign off on a VoIP installation to prevent misroutes

- The 9-1-1 Office worked as a member of CSRIC Working Group (WG) 4A[22] -- Best Practices for Reliable 9-1-1 and E9-1-1. The objective of WG 4A was to investigate and identify currently available standards and best practices concerning the implementation of 9-1-1 and E9-1-1 for VoIP services, and identify gaps including challenges related to the implementation of such standards by VoIP providers within the E9-1-1 system.
  - There were several issues/gaps identified by WG 4A, but one particularly relevant to this proceeding involved VSP campus testing following the conversion of a campus or enterprise MLTS system to VoIP. WG 4A recognized that address provisioning performed

[22] NENA reported that the WG 4A Final Report was submitted to the CSRIC on June 15, and the report was adopted as submitted on October 7, 2010. As a public document, it is expected to be available at: http://www.fcc.gov/pshs/advisory/csric/

by installers can be inaccurate and result in misrouted E9-1-1 calls. This type of misrouting error caused by inadequate testing was identified by CALNENA as a representative problem and reported by the Siskiyou County 9-1-1 county coordinator following a VoIP installation at the local college.
    - WG4A recommended that VoIP service and equipment providers perform additional testing for large or higher risk environments. Accordingly, the recommended Best Practice requires the VPC to perform additional testing for VSP client environments that have a high user capacity.

- Finally, Ms. Pena recommended that the CPUC create a single reference point on its website with guidelines, educational materials, links to other resources, and a statement of benefits, to ensure that the end user has access to 9-1-1 with the accurate location provisioned and displaying at the PSAP. As Ms. Pena so eloquently put it, the bottom line really is "Where do you want the ambulance to go?"

Conclusions and Recommendations

It has been 16 years since the FCC opened CC Docket 94-102 to address the serious call delivery problems of 9-1-1 calls originating from PBXs. In 1995 the Telecommunication Industry Association issued its "689 Standard for PBX and KTS Support of E9-1-1", and Pacific Bell filed the first PS/ALI tariff with the CPUC. Illinois passed the nation's first PBX/MLTS E9-1-1 law in 1999[23], and 15 states have followed with similar requirements. Theses events and the workshop presentations confirm the findings of the FCC's 2003 Report and Order that utilities can provide the trunking and interfaces capable of transferring location information received from a PBX/MLTS, and that a variety of technologies and vendors exist that make MLTS E9-1-1 compliance quite feasible and affordable at all price points. Yet, California's PSAPs report serious PBX 9-1-1 call misdirection and response unit misdirection problems throughout the state. 9-1-1 calls from PBXs are misrouted and have to be transferred to the correct PSAP, 9-1-1 call takers are not provided with the accurate caller location information needed to direct field responders to the site of the emergency, scarce public safety resources are misallocated, and critical minutes are added to emergency response times with potentially tragic consequences.

The PSAPs' purpose in participating in this proceeding was to help the Commission understand the difficulties faced by a PSAP in identifying the actual location of a 9-1-1 caller, and to alert the Commission that inaccurate reporting of PBX/MLTS information to the PSAP is a major public safety concern that causes delayed response to emergency situations. PSAPs stressed that in many cases, employees in the private and public sector don't even know that their location is not being accurately presented to the local 9-1-1 call taker, and there are many examples where callers who were unable to speak or communicate were saved because of E9-1-1 capability that reported accurate caller location.

The Presenters offered many reasons to explain the widespread nature of the MLTS E9-1-1 problem. Many business owners and installers do not understand how 9-1-1 caller location delivery works, so they are unaware of the problem. Utilities have viewed PS/ALI and other MLTS E9-1-1 services as a 'demand product', and do not appear to proactively identify E9-1-1 issues and solutions when provisioning multi-line service. The presentations from third party vendors and the 9-1-1 Office revealed that many individual businesses and installers are aware that other states have MLTS E9-1-1 mandates, but have difficulty finding information on E9-1-1 guidelines, standards and solutions for their California installations.

Facey Medical Foundation's letter to the Commission as a PBX owner succinctly described these difficulties, and identified the benefits to public safety if the CPUC were to establish similar regulations to other states, public outreach communications to make it easier to find information on E9-1-1 services, and a working dialog and cooperative mission with 'telco' providers to help ensure that PBX/MLTS customers' needs are proactively addressed.

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[23] Please see the O.I.R, Appendix D for more detail on the current state legislation requiring MLTS E9-1-1.

To quote one service provider's presentation, 'Customer education is part of the sale and provisioning process'. Staff believes that utilities can do a better job of informing PBX customers of potential 9-1-1 call delivery problems with certain high risk MLTS installations. Not withstanding this duty, utilities can not solve these problems on their own since the final decision rests with the customer. In other states, PBX owners have chosen to ignore the problem even when there was a legal mandate. As a result of all these issues, NENA's MLTS Technical Subcommittee Chairman Mark Fletcher estimates that 70% of all PBXs are not provisioned for MLTS E9-1-1, and concludes that without a state law with strong compliance provisions, PBX owners have little incentive to correct the problem.

There was no disagreement expressed at the workshop with conclusions that carriers and other service providers can not compel the customer to provision phone station location information, and that a law is needed with teeth in it to require PBX owners to provision E9-1-1 where it is needed. While there appears to be a general preference among the participants for the legislative process, Staff also believes stakeholders can begin the work needed to address the problems and issues raised in the workshop, and prepare for the day when California joins the other states with a MLTS E9-1-1 legislative mandate.

Among the various action items discussed at the workshop, staff considers the following to offer reasonable and effective interim solutions with the promise of minimal regulatory delay:

- LEC and other service provider business practices should be improved to facilitate customer access to existing services that provide MLTS E9-1-1 solutions
- PSAPs and County Coordinators should develop statewide guidelines and points of contact for arranging the testing of call routing from high risk MLTS environments
- Public education and resources on MLTS E9-1-1 issues and solutions should be provided through the Commission and the California 9-1-1 Office.

As the PSAPs acknowledged, identifying the 9-1-1 caller's location is a challenge involving the individual, the PBX/MLTS owner, the local carrier/service provider, other third parties, and government agencies responsible for providing public safety. Assistance from the ALJ Division is available to help stakeholders reach a timely consensus on actions moving forward. California does not need to reinvent the wheel -- there is experience and multiple examples from within our state on how mid-sized and large businesses, non-profits and government entities provision MLTS E9-1-1. And laws in other states provide examples of what works and doesn't work for effective compliance.

There is no excuse for continuing non-action when the case for improving public safety was so clearly presented by California's 9-1-1 and public safety subject matter experts. The goal is simply to improve the public's access to E9-1-1 where we work, shop, relax and vacation; where our kids go to school and college; where we receive government services and medical care; and where many of our disabled and elderly citizens live.